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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control

Memorandum

Date July 1982

From Chief, State and Community Programs Branch
Center for Health Promotion and Education

Subject Contract Report "Helping Teenagers Become Nonsmokers"

To HE-RR Coordinators and Project Directors
School Health Educators and State Directors
of Health Education

Attached for your information and to assist you in your health education interventions with youth, is the contract report produced under Contract No. 200-79-0921.

The purpose of this contract was to replicate and evaluate specific smoking education programs for youth throughout the United States. We hope these data will be helpful.

John M. Korn

John M. Korn

Attachment

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INTRODUCTION

Helping Teenagers Become Nonsmokers is the final report of a two-year study to promote nonsmoking behaviors in youth. It describes the methods used to select five model smoking education programs, implement them at ten diverse sites across the country, and evaluate their effectiveness. This report should also be useful in assisting youth agencies, health organizations, and schools to start their own smoking and health education programs for youth.

Section 1 of the report discusses teens and smoking and the general approaches that can be used to help them avoid or break the smoking habit. The five programs we selected are based on those general approaches. Next this section presents the methods we used to start the five models at ten very different locations nationwide. We also suggest ways for others to choose and manage health education programs.

Section 2 provides details about how the sites in our study started their programs and how they adapted the activities to best fit their own particular situations. The ideas in these brief case studies provide examples of activities that can be used by similar sponsoring organizations or groups.

Section 3 presents some of the results of the activities that worked well. Summaries of adult and student reactions to the programs are included to highlight the strengths of each model. This section concludes with suggestions and recommendations from the original model developers and site coordinators, the teachers and students who participated, and the AIR staff. We hope the information in this report will encourage the future use of the model programs by a wide audience of potential adopters.

Acknowledgments

From the beginning of the search to select the model programs and the implementation sites, to the final revisions for this report, I have been fortunate to have the enthusiastic cooperation of many people. I would like to acknowledge the assistance of the advisory panel in helping the study to get underway and of all the AIR staff members who worked on the tasks over the past two years.

I especially appreciate the invaluable cooperation of the model developers, the site coordinators, the many teachers and adult volunteers, and the hundreds of students. They all contributed their time and effort to make this study both enjoyable and beneficial. Finally, I want to thank the Project Monitors, John Korn and John Witte, for their advice and encouragement. With their support, I feel another major step has been taken toward helping teenagers become nonsmokers.

Jeanette D. Wheeler
Project Director

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1. SELECTING AND IMPLEMENTING THE MODEL PROGRAMS

Background and Purpose of the Study

In the last part of the 1970s there were very welcome reports that the percentage of teenage smokers had declined. Many factors may have contributed to the decline--the end of television advertising, the reduced rate of smoking by adults, "clean-air" policies in public places, and an increased awareness by the general public of the hazards. One of the reasons for the declining trend may also be that schools and health organizations have become increasingly concerned about teenage smoking and have promoted innovative antismoking programs.

Much remains to be done, however. Twelve to fifteen percent of teens do smoke, and despite the overall decline, there are increases in the rate of older girls who smoke.

In 1976, the Bureau of Health Education (BHE) took an important step toward promoting nonsmoking behaviors in adolescents by contracting with the National Interagency Council on Smoking and Health (NIC) to conduct a nationwide antismoking program. That program resulted in 13 demonstration projects developed with the rationale that young people could help themselves become nonsmokers.

In October 1979, the American Institutes for Research (AIR) was awarded a contract by BHE (now called the Center for Health Promotion and Education) to select the best of those 13 projects and to institute sound procedures for their replication, evaluation, and dissemination. An advisory panel was convened to review and refine plans for determining effectiveness of the NIC projects. Their recommendations helped AIR staff to formulate the next steps of the study.

The first step was to assess the 13 demonstration projects. To ensure objectivity in the review and selection process, AIR staff assessed the projects using the same criteria and procedures for each. Documentation was gathered from each site and from BHE, including proposals submitted to NIC, progress and final reports, and materials developed for student and teacher use. Before visiting the sites, AIR staff reviewed the documentation and were trained to gather comparable information on-site. Visits were then conducted to the sites to examine the projects in action and to talk to individuals involved in designing and implementing the projects. Interview

guides were used by site visitors to ensure that final project descriptions would be accurate and comprehensive. (Details of this first step are provided in Interim Report Number 1: Review of Teenage Smoking and Health Projects.)

Selecting Smoking Education Programs

We used three criteria to select the projects that would serve as model programs:

- impact on target population--can the project achieve the desired changes in teenage smoking behaviors, attitude, and knowledge?
- replicability--is there a strong potential that diverse organizations and agencies can easily implement project activities and obtain required resources?
- marketability--can the projects meet the needs and preferences of a site better than what they are doing (or not doing)?

AIR staff and in-house advisors then individually reviewed each project using the project descriptions, selection criteria, and project documentation. The five projects with the greatest potential were selected as model programs and then reviewed by an external consultant who concurred with our choices. (A detailed explanation of the criteria used and the selection process is provided in Interim Report Number 2: Rationale for Five Selected Smoking and Health Projects.)

Although as researchers we were concerned with the availability of "hard" data, we recognized that the five selected model programs needed to be attractive and adaptable as well. The selected models had two traits in common. First, the model developers had been careful to design and conduct reasonable evaluation that produced data on program effectiveness. Second, and as important, were the obvious attempts of the programs to encourage school districts and health agencies to continue or expand them. The projects selected as model programs passed the test posed by the following questions:

- Is accurate detailed information available concerning the project activities and required resources?
- Are the project's major goals and objectives stated, and do the activities and materials serve to achieve those goals?

- Are instructional materials or equipment either easy to reproduce or inexpensive to obtain?

- Are project activities and management procedures simple enough to make implementation feasible for a large number of potential adopters?

- Does the project offer attractive advantages over available alternatives? Does the project appear to be cost-effective?

As a group, the five model programs recommended for replication provided a mix of approaches, target populations, host agencies, and geographic regions. First, the target populations encompassed a spread of ages and grade levels, ranging from sixth grade to adolescents, in an after-school program. the programs were successful in urban areas, suburban communities, and rural regions in the Western, Midwestern, and Northeastern sections of the country. Third, the interventions were managed by same-age and cross-age peers with the supervision of adults. Finally, the sponsoring agencies included universities, nonprofit health agencies, and school districts. Individually, each program was selected by balancing the results after applying the criteria. That is, no one program was "perfect" on all measures, but all were judged to be acceptable with regard to impact, replicability, and marketability.

The Reasons Teens Smoke

Each of the model programs we chose considered very carefully the reasons teens smoke. Most of the reasons appear to be based on social and emotional influences such as the following:

- social pressure--if their friends smoke, they may also do so in order to be accepted;

- role models--if people they admire (either peers or others such as sports heroes, musicians or actors) smoke, teens may also do so to be like those people. If teens see their parents smoking and consider it a badge of adulthood, they may start for that reason. Teens whose parents smoke are four times more likely to smoke than teenagers whose parents are nonsmokers.

- rebellion--if parents or other authority figures urge them not to smoke, teens may do so to show their independence;

- media influence--ads in magazines and newspapers and on billboards still suggest that smoking is necessary for romance, popularity, maturity, sophistication, liberated femininity, and fun;

- individual characteristics--includes personal attitudes and beliefs about smoking and the knowledge or awareness of the health hazards. Psychological make-up and personality may also play a part in determining smoking behavior.

Approaches that Help Teens Avoid or Break the Smoking Habit

Using only scare tactics or simply providing factual information hasn't been very effective. The programs that do work have taken into account the reasons why teens smoke, have actively involved the teens, and, in may cases, have been run by peers or admired role models.

The following table links major program goals with activities that help teens become or remain nonsmokers.

GOALS	ACTIVITIES
Help students to be able to resist peer pressure to smoke	• Conduct role-playing, skits, mime, audiovisual presentations that demonstrate pressure-to-smoke situations. • Provide assertiveness training exercises. • Provide communication skill-building exercises.
Provide nonsmoking or antismoking role models and antismoking peer and media pressure	• Have nonsmoking admired peers or role models (e.g., high school students) lead discussions and act as counselors. • Present existing and youth-created audiovisual antismoking programs. • Conduct group discussions about the effects of pro-smoking media influences.
Change attitudes and beliefs regarding the supposed positive aspects of smoking	• Conduct discussions about the long-term effects of smoking on the individual and society. • Ask for written and verbal personal statements of values and feelings about smoking.

Educate youths about the physical hazards of smoking

- Use biofeedback equipment that shows teens the immediate physiological effects of smoking.

Programs can focus on just one of these goals or some combination of the four. Many of the activities can be coordinated by trained peer leaders, and most try to give students information they can use to make up their own minds about smoking. Each of the five smoking education programs described on the following pages features a number of these goals and objectives.

The Five Model Programs

AN AFFECTIVE APPROACH TO ADOLESCENT SMOKING EDUCATION.

This antismoking program is one component of "Body Power," a full-year personal health curriculum for sixth graders. One of the primary goals of the curriculum is the prevention of habits that may lead to heart disease. The smoking module presents information about the effects of cigarettes on the heart and respiratory system.

The target population of this teacher-directed program is younger than that of the other four model programs. The well-designed and easy-to-use materials include a student activity book, a teacher's guide, and a motivational film called "Do You Mime If I Smoke?" Student activities include role-playing and mime activities that help students understand the pressures to smoke, the need to make up one's own mind about health matters, and the effects of smoking. The module can be scheduled into regular health or science classes for one hour, three times a week, for twelve weeks.

Reproducing the program requires obtaining the cooperation of the school administration and the elementary schools involved. Teachers have to be recruited and trained; the training session takes about one school day.

The program, developed by the Chicago Heart Association, has been implemented in 100 sixth grade classrooms throughout Chicago.

COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)

This program is also prevention-oriented and is designed especially for seventh graders. It uses nonsmoking role models to teach young people how to resist social pressures to smoke.

The role models are teams of nine high school students. Working from a memorized script, they go into seventh-grade health classes to lead small group discussions, skits, role playing and other activities. In addition to other audiovisual materials, they also present taped testimonials by high school ex-smokers.

The schedule calls for three visits on three consecutive days, followed by one-day visits at two-month intervals throughout the year.

The program has been replicated at diverse sites, and was developed at Stanford University in California. A detailed, precise guidebook is available to potential project coordinators. It describes how to get the cooperation of junior high school administrators and of the teachers to be involved, how to schedule the sessions, and how to recruit, train, and supervise the peer leader teams. Other materials available include curriculum guides, student scripts, slide shows and worksheets.

LIFE SKILLS TRAINING: A COMPREHENSIVE APPROACH TO THE PREVENTION OF SMOKING

This program uses a variety of educational techniques to inform seventh graders of the social and psychological factors that influence teenage smoking. Teens learn to resist peer and media pressures to smoke, to cope with anxiety-provoking social situations, and to be aware of the effects of smoking.

Activities include role-playing, discussion groups, instructional lectures, and the use of biofeedback equipment that shows each student the immediate physiological impact of smoking.

Program materials include an audiotape with relaxation exercises and anxiety-coping techniques; videotapes on communication, social skills, and assertiveness; slides of cigarette advertising; a teacher's manual; and a student workbook.

Reproducing the program requires a coordinator to enlist the cooperation of the schools, to help recruit teachers and to arrange for the loan or rental of the biofeedback equipment. Training the teachers requires at least one initial workshop.

The program was developed by staff at American Health Association, and is now based at Cornell University Medical College.

PREGNANT TEENAGERS EDUCATION PROGRAM

The rate of female adolescent smoking continues to increase, and so does the number of adolescent pregnancies. Therefore this program reaches out to pregnant teenagers, whose smoking may endanger the fetus and is likely later on to influence their children's attitudes toward smoking.

Usually the program becomes a part of existing services, such as high school classes or social service programs for pregnant teens. The participants are encouraged to develop their own smoking education projects and make presentations to their peers. In the course of three months of weekly meetings, the girls review available films, literature, and posters, and build these into their presentations. The program requires a coordinator to collect materials and the participation of experienced counselors or teachers at the site where the project is to be put into effect. A one day workshop is required to orient these people to the program. Most of the materials used are readily available, many at no cost, from health organizations. Products developed by the three original demonstration sites also are available.

The program was developed by educational psychologists at the University of Minnesota, and first implemented in three youth centers serving upper-middle income to poverty-level populations.

SCHOOL HEALTH EDUCATION PROGRAM (SHEP)

This program uses equipment measuring the immediate physiological effects of smoking to inform students about the health hazards of smoking. For one hour each day during one school week students in science and health classes use the equipment (including a cardiotach, digital thermometer, tension/steadiness tester, and ecloyzer) and discuss the results. These results include increased heartbeat, increased hand tremor, a drop in skin temperature, and a rise in the carbon monoxide level in the lungs. The difference between effects on smokers and nonsmokers is analyzed.

Duplicating the program requires administrative approval, including permission for some students to smoke in the classroom. In some school districts, parents must also give their consent for their children's participation. The equipment often can be rented or borrowed from health organizations, and the project coordinator should schedule the equipment use so as to reach as many classes as possible during the week that the tests are administered. Adults using the equipment are trained in aspects of physiology, drug interaction and effects, and project goals and evaluation procedures. Materials available

include student and instructor guide sheets for each experiment, a curriculum outline for instructors, and tabulation sheets for conducting the experiments.

The program was developed by the New Hampshire Lung Association, and has been used extensively throughout that state.

Steps to Consider Before Selecting a Smoking Education Program

Before deciding on which of the model programs (or any other health education component or program) best suits a particular locale, several preliminary steps are necessary.

Who is it for and where will it be? The first step in planning a smoking education program is to choose the population to be served and the best setting in which to reach them. It will be helpful to consult parents, teachers, coaches, principals and those who work in community centers--these people are likely to know teens' smoking behaviors. Such people can be contacted by mail or phone or at one-to-one or group meetings. It's useful to create a brief questionnaire that asks questions like:

- What kind of program would be most useful?
- Where should it be conducted (e.g., in a school or youth center)?
- Who would be interested, willing to be trained, and available to coordinate a program?
- Are there any objections to starting a smoking education program?

In addition to gathering information, the questionnaire is a good way to find out initial reactions to the proposed project, generate interest, and form relationships that will benefit the project throughout. If school or local politics are likely to result in opposition to smoking education, the results of the questionnaire will alert potential coordinators or staff to this at the start. They can then plan how opposition could be overcome and how to gain support.

Most smoking education programs for youth take place in schools. In these cases, the following questions need to be considered:

1. What grade levels will the program reach?
2. Will it be part of a class (for example, science, or health education), or will it be an afterschool activity?

3. How many youths will the program accommodate?

4. Will it be required or elective?

5. How can the cooperation of teachers be obtained?

For programs that do not take place within schools, consider the following:

1. How can youths be motivated and become interested in the program?

2. What setting is most convenient for youngsters?

3. Is it possible to tie in with youth groups, like the Scouts, drop-in centers, or YWCAs/YMCAs?

Consider and document all the options, noting the ones most preferred. Once the support and involvement of school districts, agencies, or organizations is obtained, final decisions on the questions above can be made as part of the collaborative effort.

What resources are available? The more resources a program has available, the better are its chances for success. It's important to determine what resources are available that an organization or school district can contribute to the project.

Resource Checklist

_____ A facility in which the program can take place

_____ A source of necessary financial support

_____ The staff needed to run the program

_____ People in an organization or agency who can train staff to run the program

_____ Audiovisual equipment

_____ Duplication equipment and needed office supplies

_____ An organization or local agency to supply necessary physical-testing equipment

Most of these questions were asked by the individuals or groups that responded to our search for implementation sites.

Selecting the Implementation Sites

Our perceptions and decisions on the best programs would have been simply conjecture if the model programs could not attract other sites. This next step, attracting sites interested in and capable of implementing our choices, was crucial to the success of this study. In order to create interest in potential adopters, we informed health and youth organizations and educational and social services agencies about the study. An attractive brochure was prepared, describing the study and asking readers to contact AIR about becoming a replication site. The brochure was mailed to more than 200 organizations, several of whom multiplied the audience reached by including the brochure information in their own newsletters and journals. Inquiries about implementing smoking education programs were received from almost 200 groups and individuals. Each was sent an application packet, including a cover letter, a time-task chart, a description of the kinds of help AIR would provide, an application form, and abstracts of the five model programs. (Details of this phase of the study are in Interim Report Number 3: Selecting Sites for Smoking and Health Projects.)

Final decisions on the site selection were made by an inhouse advisory group that reviewed 25 of the strongest applications. We expected that potential sites should show ample evidence of collaboration between the sponsoring agencies and school districts, and the commitment of the administrators and educators to improving health education. We were equally concerned that special subpopulations be reached--pregnant teens, inner-city and rural youth. In addition, our strategy for guaranteeing the faithful implementation of each program's activities was to rely on the original model developers as consultants to the new sites. Whenever possible, we geographically grouped the selected sites to facilitate travel and communication between the consultants and the two sites for which each would be responsible. But more important were the research concerns--how could the outcomes of the replication study best add to the body of knowledge about health education for young people? Discussions with the model developers led us to weigh heavily the potential bonus of implementing the model programs at sites dissimilar from the original ones. That is, if a program worked well in a Northeastern city under the direction of a school health educator, would it also be successful in the rural South with the sponsorship of a medical association? The resulting selection of diverse

sites to implement the same program reflected our interest in testing the generalizability of the models.

Finally, each individual site had to indicate that the following requirements would be met:

- appropriateness of available target population
- willingness of key persons to participate in training and orientation prior to implementation
- ability to replicate the program within time period allotted
- commitment of organization/agency administration
- in-kind support of sponsoring agency (staff, facilities, etc.)
- potential for serving as a demonstration site to encourage future replications by nonprofit organizations
- potential for serving as technical assistants/disseminators for future replication sites

Table 1 illustrates the comprehensiveness of the 10 selected sites on the measures of diversity of sponsoring agencies, geographic mix, and student demographic characteristics.

Implementing the Model Programs

Before the five model programs were implemented at the 10 sites, AIR staff prepared a set of materials that was distributed to the site coordinators. A videotape, Smokescreen, was made that discussed the problem of adolescent smoking and the methods that appeared to be most effective in changing attitudes of teens about smoking, and presented overviews of the five model programs. Accompanying the videotape was a booklet, also called Smokescreen, that provided step-by-step guidelines for implementing and evaluating smoking education programs.

Included with the materials were a series of planning charts that would be used by the site coordinators to document their activities, time tables for completing activities, and budget and progress sheets for keeping records and for reporting accomplishments and problems.

Although all the print and visual materials were necessary and useful to the site coordinators, the key to successful implementation was, without question, the personal contacts between the model developers and the participating personnel at each location. The cooperative working relationships

Table 1

OVERVIEW OF SPONSORING SITES

Site/Program	Geographic Region	Urban	Suburban	Rural	Special Features	Sponsoring Agencies
1. Rapid City, SD Affective Approach (mime)	Northwest			*	Minority (Native American) and White population; small city and rural (reservation) setting	Area Health Education Center
2. Ft. Lauderdale, FL Affective Approach	Southeast	*			Minority (Black, Chicano, Cuban) and White population; certified health educators in middle schools	County School District
3. Yucaipa, CA CLASP (Counseling Leadership)	West		*		Graduate student participation; collaboration between university and school district	School District/University
4. Orange County, CA CLASP	West		*		Experience in peer-led health education program After-school program with predominantly Chicano boys	Boys' Clubs
5. Binghamton, NY Life Skills Training	Northeast	*			Hospital-based; collaboration with school district; state-mandated health education	Hospital
6. Raritan, NJ Life Skills Training	Northeast		*		School health specialists trained in smoking cessation inservice courses; team teaching in the grades	School District
5. Houston, TX Pregnant Teenagers	Southwest	*			Minority population (Black and Chicano); staff experience in smoking cessation programs	Lung Association/School District
7. New York City, NY Pregnant Teenagers	Northeast	*			Minority population (Black); experience in smoking cessation programs for pregnant women	Lung Association/School District
8. South Bend, IN SHEP (Biofeedback)	Midwest	*			Collaboration with school district; health educator specializing in smoking programs on staff; classes supervised by science teachers	Lung Association
10. Monroe, LA SHEP	South			*	Volunteer participation; collaboration with school district; high risk area	County Medical Society

established early in the study were maintained, and provided continuing support and reinforcement to the staff at the sites.

An initial day-long meeting to introduce the study to coordinators and staff was held at each site. Usually these meetings were scheduled to allow site personnel to spend the summer vacation months on planning and training. A typical agenda began with a brief description of how and why the model programs and the implementation sites were selected. Then the videotape, Smokescreen, was shown and copies of the implementation guide, Smokescreen, were distributed and discussed.

The audiences often included board executives of the sponsoring organizations, school board superintendents, and principals as well as educators from other districts who were interested in implementing a program in the future. Several site workshops also attracted the attention of radio, television, and newspaper reporters, a definite plus for the continuing support of the programs by the participating communities.

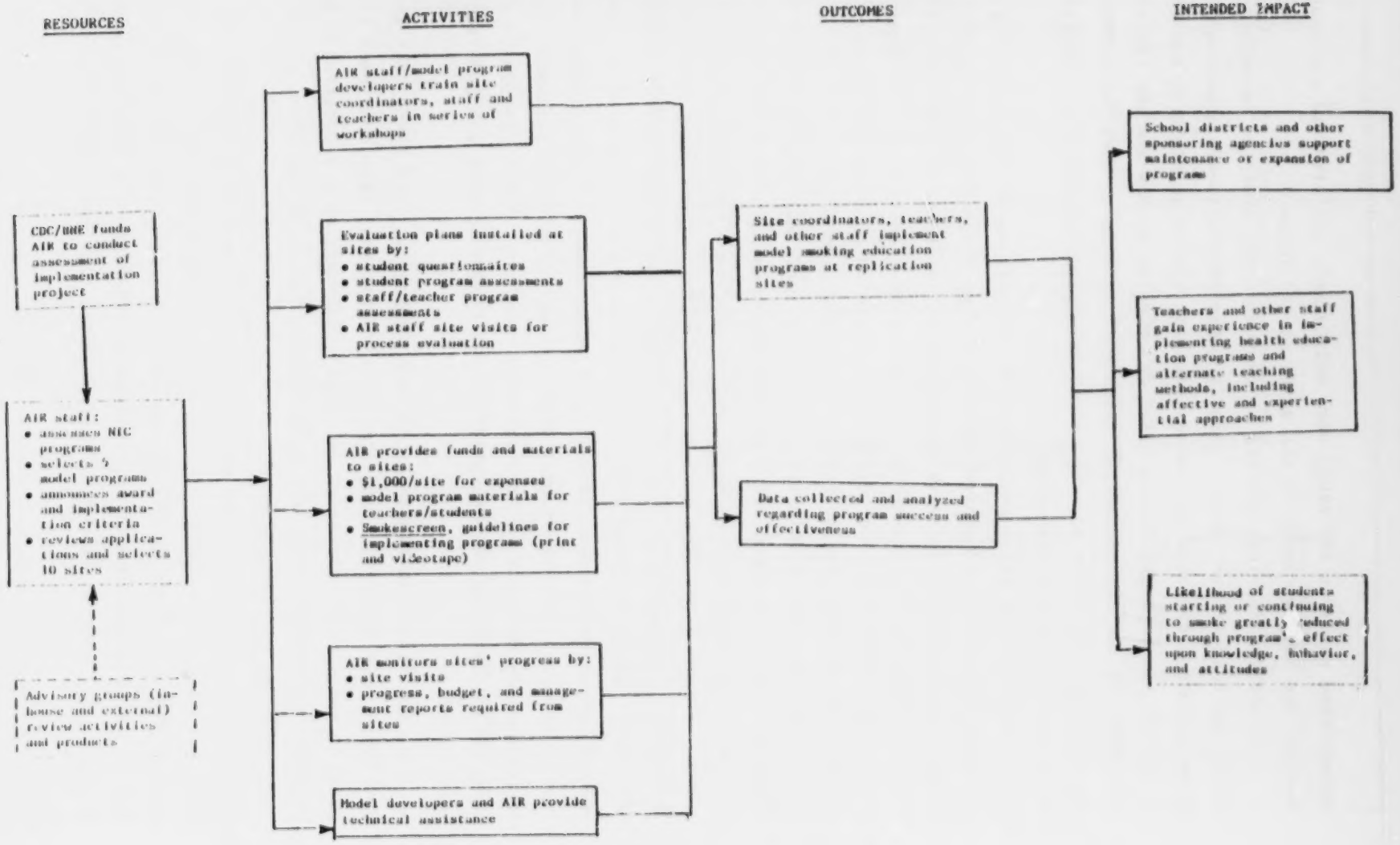
Then the model developers reviewed the original development of their programs and the student outcomes that had been achieved. The essential program activities were outlined, and audiovisual and print materials were shown. Actual activities were rehearsed either at the first meetings or at follow-up workshops held just prior to the start of the 1980-81 school year. The participants at these workshops took the roles of teachers or students to try out materials and carry out the activities. At two sites, high school students in early summer sessions participated in demonstrations using program materials. Each workshop concluded with a discussion of the evaluation plans and responsibilities for reporting progress and requesting assistance.

It has become increasingly evident throughout this study that the carefully laid foundation and the readily available help have been invaluable to the sites. The point is clear--implementing a successful program depends upon establishing and then maintaining constant, open, and personal contact among all participants.

More than contacts were needed, however. Each site was provided with program-specific teacher/staff manuals and student materials. The site coordinator was given $1,000 to use over the school year for additional materials, student incentives, incidental expenses such as phone calls and postage, and in some instances, for released time for teachers to attend

Figure 1

GENERAL SEQUENCE MODEL FOR IMPLEMENTING SMOKING EDUCATION PROGRAMS FOR YOUTH


RESOURCES
ACTIVITIES
OUTCOMES
INTENDED IMPACT
CDC/OHE funds AIR to conduct assessment of implementation project
AIR staff:
• announces NIC programs
• selects 4 model programs
• announces award and implementation criteria
• reviews applications and selects 10 sites
Advisory groups (in-house and external) review activities and products
AIR staff/model program developers train site coordinators, staff and teachers in series of workshops
Evaluation plans installed at sites by:
• student questionnaires
• student program assessments
• staff/teacher program assessments
• AIR staff site visits for process evaluation
AIR provides funds and materials to sites:
• $1,000/site for expenses
• model program materials for teachers/students
• Smokescreen, guidelines for implementing programs (print and videotape)
AIR monitors sites' progress by:
• site visits
• progress, budget, and management reports required from sites
Model developers and AIR provide technical assistance
Site coordinators, teachers, and other staff implement model smoking education programs at replication sites
Data collected and analyzed regarding program success and effectiveness
School districts and other sponsoring agencies support maintenance or expansion of programs
Teachers and other staff gain experience in implementing health education programs and alternate teaching methods, including affective and experiential approaches
Likelihood of students starting or continuing to smoke greatly reduced through program's effect upon knowledge, behavior, and attitudes

the training workshops. At a few sites, teachers (both in the study and those considering using the programs) received inservice credit from their districts for attending the workshops.

Specific details about implementation techniques at each site are discussed more fully in Section III of this report. Figure 1 illustrates, in general terms, the sequence of program implementation. Some of the methods we used to ensure that each site kept accurate and adequate records are discussed next; the ideas may be helpful to the reader.

Important Aspects of Managing a Program

Good management helps assure that a project will run smoothly day-to-day. For example, if the specific tasks for each staff member are documented, this reduces the likelihood of conflict among staff members who may be unsure of their responsibilities. If a project timetable is developed and agreed upon, there is a greater chance that the project will stay on schedule.

A well-managed project also is easier to evaluate. It is important to keep records concerning the number of students who participate, their answers to questionnaires, and the responses and opinions about the project of those who participated (both youth and staff). This kind of information is needed to determine the success of a project, in locating areas where improvement is needed, and in finding out how well received the project has been.

Good management makes it easy to replicate the project at another site, or to use it again (perhaps on a regular basis) in the same setting. Records of all the information that would be helpful to someone interested in using this project are important, since it is likely that similar issues and questions will arise wherever the project is implemented.

The key to good management is well-organized record keeping. The following is a suggested checklist of information for keeping records.

Project Records Checklist

_____ Project budget detailing all expenditures. The budget should include spaces for projected and actual costs, with explanations where actual costs differ from those projected.

_____ Management chart listing all personnel in your organization and other involved organizations, their titles and specific responsibilities on the project, and amount of projected and actual time for each responsibility.

_____ Project timetable.

_____ Regular progress reports outlining major activities undertaken during this time period, outcomes, unexpected problems and decisions and activities planned for the next time period.

_____ Samples of all materials used in the project (such as questionnaires, student activity books, teacher's manuals). For materials that are rented or obtained free (films, tapes, etc.) an updated list of costs and addresses of sources.

An example of a management/timetable chart is provided by Table 2. Table 3 shows a useful planning document that is also handy for keeping accurate records of money budgeted and used. Finally, Table 4 gives a sample monthly progress report that might be submitted by a school teacher coordinator to an association or district program director.

* * * * * * *

In the next section of this report, the five model programs are described to show how each of the ten sites adapted activities, managed resources, and solved problems. All the sites have unique characteristics, but they share in common careful planning, good management, and enthusiastic leadership.

TABLE 2: PROJECT MANAGEMENT AND TIMETABLE

Site coordinator: _____ TASKS/ACTIVITIES

	AUGUST	SEPTEMBER	OCTOBER
Site Coordinator Name: Agency:	(EXAMPLE) 1) Week of Aug. 5: arrange meeting with representatives of Lung Assoc. and District director of health and physical education 2) Week of Aug. 12: Meet with...	(EXAMPLE) 1) 2) 3) Set up schedule for equipment in 10th grade science classes	
Sponsoring Organization Key Staff and Their Major Responsibilities: 1) Name: Function: 2) Name: Function: 3) Name: Function:	(EXAMPLE) 1) Health Educator: duplicate materials for teacher guide 2) Locate films required for first session		
Involved Schools/Districts 1) School: Teacher: Grade: No. of Students: 2) School: Teacher: Grade: No. of Students:	(EXAMPLE) Meet for six-hour workshop to review activities and materials, Aug. 24 at South Jr. High		

Table 3

PROJECT BUDGET

Site: _____

	198							198
	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
Personnel								
Personnel training (e.g., substitute pay)								
Equipment and materials								
Consumables (e.g., student materials)								
Other costs* (specify: _____ _____ _____)								

*e.g., transportation, postage, public relations, technical assistance, facilities

Table 4

MONTHLY PROGRESS REPORT

Site: South Senior High School

Site Coordinator:

Dates Covered by This Report: 1 October - 30 October

1. Major Activities Carried Out During This Report Period:

Biofeedback equipment was used in all the tenth grade science classes during the first week of the month. The second week the equipment was taken to North Senior High. Tenth graders at South continued to . . .

2. Major Outcomes of Activities:

Most of the students were intrigued by seeing their own bodily responses. They requested that the same equipment be used in all their p.e. classes during the . . .

3. Problems and Critical Decisions:

Adults (3 school bus drivers) had to be brought into one of the science classes to show the difference between smokers and . . .

4. Activities Planned for Nest Report Period:

One science class is already developing a follow-up session for the rest of the tenth graders showing the effects of air pollution in the auto shop and the teachers' lounge.

2. CASE STUDIES OF SPONSORING SITES

The following brief case studies provide an overview of ten sites' experiences in implementing the five model programs. They illustrate how the model programs work in diverse settings under varied sponsors, and provide guidelines for others interested in implementing similar programs. The focus of the descriptions is on how sites set up the programs; the ways in which they modified activities or educator roles to better suit their settings; costs; effectiveness; and recommendations made by site coordinators for those interested in conducting the programs.

There are two descriptions (representing the two sites) for each program. The first description begins with a brief overview of the model program, and the second provides a more detailed description of model program curriculum.

AFFECTIVE APPROACH TO ADOLESCENT SMOKING EDUCATION

Fort Lauderdale School District

Florida

Overview

This program is one component of a year-long personal health curriculum for sixth graders called "Body Power." It reaches students at an early age and teaches them about the effects of cigarettes on the heart and respiratory system. Materials include an attractive student activity booklet, a teacher's guide, and a motivational film entitled "Do You Mime If I Smoke?" Teachers direct student activities, which include role playing and mime activities that help students understand pressures to smoke, the need to make up one's own mind about health matters, and the effects of smoking upon the body. The program takes place as part of a regular school health curriculum for one hour three times weekly, and lasts twelve weeks. The program was developed by the Chicago Heart Association and has been used extensively throughout the Midwest.

Background

The School Board of Broward County, Florida, has actively encouraged the development of effective health education programs for many years. The Board employs a Health Education Coordinator and a Health Services Specialist who plan and implement health curricula. The Board also has a research department that evaluates these programs. The Affective Approach to Adolescent Smoking Education program was the first choice of the School Board, primarily because it reaches very young adolescents through the imaginative use of mime to present educational material.

Planning

The school board's Health Education Coordinator first obtained permission to conduct the program from district superintendents. The district's Health Services Specialist recommended several principals of middle schools who would be interested in the program. One of these principals wanted as many students possible to participate, and ten classes at his school ultimately received the program. Shortly after the school was selected, the two health teachers who were chosen to conduct the program the next fall

met with the coordinator, the original model developer and the AIR project director. The model developer presented a workshop to explain the program's history and components, and provided the coordinator with all of the necessary materials from the model developer. These included student workbooks, teacher's manuals, and the mime film. The two teachers reviewed these materials and prepared their lesson plans to fit the program into the existing health curriculum.

In early September, the model developer from the Chicago Heart Association again visited the site. Most of his time was devoted to working with the sixth grade teachers, discussing teaching strategies and reviewing activities for classroom use.

Planning for this program essentially consisted of the initial selection of teachers to administer the program and the two inservice workshops conducted by the model developer. At this site, as at others, the coordinator found it most useful to start at the upper echelon to seek help and permission in selecting appropriate schools and teachers. She did feel that only one inservice training workshop may be necessary for the teachers, especially if the program implementation immediately follows the training, so that the information and teaching strategies are still fresh in teachers' minds.

Activities

The program was conducted in sixth grade classes by teachers certified in health education. The curriculum designated in the teacher's manual was followed without notable alterations. The project lasted for one month, in one-hour classes meeting three times a week.

The primary components of the Affective Approach program concern peer pressures and the need to make one's own decisions, the physical effects of smoking, the role of advertising in encouraging people to smoke, and the effects of secondhand smoke. The program includes both individual, personal activities, and active participation of students centering around mime. The major resources of the program are a 27-minute film, "Do You Mime If I Smoke?", and a student nonsmoking journal. All activities are coordinated to focus upon a smoking-related theme and are at the same time aimed at improving personal skills (such as decision-making), interpersonal skills (such as empathy or positive regard), or extrapersonal skills (such

as environmental awareness or societal concern). The Teacher's Manual presents a comprehensive curriculum that describes all activities and suggests ways in which teachers can present material so that students have fun while they learn.

In addition to the materials provided by the model developer, the teachers used visual materials such as a chart of the respiratory system and a three-dimensional model of a human lung to demonstrate the effects of smoking on the body. They communicated with the coordinator about once or twice a week, to provide an update on progress and to discuss students' reactions to the program.

Effectiveness

The response of both the staff and the students in the program were very positive. The majority of students stated that they liked the program "a lot;" only one student didn't like it. Most believed that the program helped them to decide not to smoke, that they learned new things and that their friends would like it. About one-third of the students cited benefits of the program not directly related to smoking, such as learning to say no to friends, to be themselves, and not to feel pressured by name calling. The impact of the program upon several students is illustrated by the following quote from a teacher: "The smoking program did not limit itself to the classroom. Some students became so motivated that they chose to research the topic further and entered the school science fair."

In finding whether the program changed smoking behavior, one teacher felt that because of the young age of participants (11 and 12 years), probably none of the students smoked. However, she did believe that the program is effective in preventing nonsmokers from ever starting. This was demonstrated by questions asked by students throughout and after the program, such as "How can a person continue to smoke knowing what it does to the body?;" "Why is smoking permitted?;" and "Why does the government permit the selling of cigarettes?"

Cost

Because eight other classes participated in this program, the coordinator was unable to isolate the cost of the program for the two classes in the AIR study. However, costs can be estimated by identifying the fees for

the various program materials. The film, "Do You Mime If I Smoke?," can be purchased for $200 and used an indefinite number of times. The teacher's manuals are about $1.50 each, and the Student Activity Books, which cannot be reused, are $2.00 apiece. The developers will have available for purchase a complete set of student materials on master sheets. With those masters (for about $400), a district could reproduce thousands of copies. Especially once the film has been purchased, the cost of the program can be kept relatively low. Additional materials, although not necessary, can be added and obtained either free or for a charge from other organizations. Teachers can be given pay or inservice credit for time spent in training workshops.

Recommendations

The coordinator recommends that persons interested in replicating the program seek sponsorship from organizations such as the American Heart or Lung Associations. Of course, permission from the school board is a necessity. It is useful to first contact the school district's health specialist, who can determine how easily the program can be administered within the existing school system and curriculum.

The comprehensiveness and appeal of the program materials play a major part in selling the program to possible sponsors, school personnel, and parents. However, publicity is the key, and an organized campaign to promote the program will enhance the positive selling points inherent in the program's features.

The coordinator felt that the program requires a qualified health education teacher. The teacher, meanwhile, believed that prior experience in health or smoking education is not necessary due to the comprehensiveness of the materials and the inservice workshops. Because the program concerns psychosocial motivations to smoke, it should be taught by someone who is familiar and comfortable with the personal and interpersonal issues covered.

AFFECTIVE APPROACH TO ADOLESCENT SMOKING EDUCATION

Rapid City Rural Area Health Education Center

South Dakota

Curriculum

The materials in the Affective Approach program for sixth graders are oriented towards helping students learn to make up their own minds about health matters, express themselves and resist pressures. Sessions that comprise the curriculum include:

I. Lookin' At Yourself: This section encourages students to investigate their attitudes toward cigarette smoking and explore feelings and values which might lead to unhealthy behavior patterns.

II. Livin' and Breathin': Information on the structure and function of the respiratory system and the health hazards of cigarette smoking is presented. The harmful components and diseases related to cigarette smoking are then discussed. Students are asked to consider the "non-health" effects of smoking.

III. Make Up Your Mime: The film "Do You Mime if I Smoke?" is presented in this session, which expands upon many of the film's concepts and makes the experience of mime personally relevant for the students. Students' lifestyles are explored, and they then have the opportunity to create their own graphics and anti-smoking story.

IV. Your Space or Mime: In this section students investigate "extrapersonal" issues related to cigarette smoking. They discover the role of advertising in promoting cigarette smoking; the relationship between cigarette smoking and the environment; and ways to promote a smoke-free environment. "My Personal Health Plan Contract" gives students the opportunity to write about their personal decisions concerning cigarette smoking.

V. Exercises and Activities: In this final part of the program, students learn and practice the basic hand and body movements of mime as they create their own antismoking skits.

Background

Staff at the Rapid City Rural Area Health Education Center had been investigating various smoking education programs for youth when they learned of the AIR project. The Center wanted to work with the schools in

their area, especially those located in the Pine Ridge Indian Reservation. They selected the Affective Approach program since it fits into the regular classroom schedule, and because it reaches young (sixth grade) students before pro-smoking influences from peers or family members have strongly affected behavior.

Planning

Since the Director of the Rapid City Area Health Education Center (who served as coordinator of the project) was also a member of the Rapid City School Board, he was able to quickly obtain permission to conduct the program in a school. He then contacted the Superintendent of Shannon County School District for approval to initiate the program at an elementary school located on the Pine Ridge Reservation.

Two training sessions for teachers were conducted by the original model developer from the Chicago Heart Association. During the first session the program was introduced and its philosophy, components, and use to date were explained. Before the start of the school year, a second workshop was held that concentrated on classroom teaching methods and student activities. Both sessions were attended by the site coordinator and several other teachers from schools within the districts who wished to implement the program at a later date. All teachers received inservice credit for attending the sessions. The two workshops involved about a 1-1/2 day commitment from the teachers.

Activities

Program activities were held over a one month period, several times each week at the two schools. The film, "Do You Mime If I Smoke" was shown at the beginning of the program, and reproduced by a local TV station for future use. News releases about the program were broadcast by local TV and radio stations, and published in the local newspaper.

Specific program activities included discussions about peer pressures to smoke, the need to make one's own decisions, and the physical consequences of smoking. For this last activity, several outside sources of information were used. Two were films that focus upon physiological aspects: the American Lung Association's "Smoking: Past and Present," and the E.C. Brown Foundation (Portland, Oregon) film entitled "Live or Die."

Because the students were also curious about how the body works and how smoking affects it, the coordinator contacted the local Lung Association for additional materials. The Association furnished sets of small plastic lungs for all participating students, who were then able to see for themselves how lungs work and how they become damaged and discolored by cigarette smoke. At the end of the program, all of the students were given buttons that read, "Keep your lungs in the pink."

Effectiveness

The program received a positive response from both the teachers and the students. The coordinator believes that much of the program's effectiveness results from the ease with which it fits into the regular school curriculum, and the fact that it is directed at a young age group. Usually, sixth graders have not been hit hard with peer pressure to smoke, but they can formulate opinions about the subject given adequate and interesting educational interventions.

Participating teachers agreed with the coordinator's belief that program success is in large part due to its presentation to young students, who are easily influenced and for whom much of the information is new. But they also felt that the film showing the physiological effects of smoking ("Live or Die") also had a great impact on the youth. Since the film is not part of the Affective Approach program, it appears that this or another like it would be a useful supplement to the program's materials.

Students indicated that their favorite part of the program had been the movies, including the mime film. The least favorite part was the paperwork, although a number of students liked everything. The new knowledge gained from the program was overwhelmingly smoking related, with students stating they learned about the harm smoking does and that they didn't want to become smokers.

Cost

The replication at the two schools cost about $1,000 to implement. This cost included reproducing the mime film, student workbooks and teacher's manuals, and transportation costs for the coordinator to drive to and from the Indian Reservation and for teachers to attend the training workshops. Incidentals such as mileage, postage, and materials duplication can

add up and the coordinator stressed that adequate resources should be made available. The coordinator obtained the added materials free of charge from local organizations.

Recommendations

One rather surprising aspect of the program was the interest and curiosity students had about the physiological effects of smoking and how the human body works. While the latter is an essential component of the full year "Body Power" program, it is not stressed to a great extent in the materials related to the smoking part of the program. Teachers and staff should be aware of this latent curiosity by supplementing the existing program materials with those that focus on this subject.

Much of the preparation for the program was done during the summer months. While there are positive aspects in terms of the time allotted for advanced planning, there can also be a motivation problem with teachers and other school staff. The coordinator did not feel that involved staff were 100% committed until the program was underway. Since the coordinator hopes that the program will become an ongoing component in the sixth grade curriculum in several schools, teachers will probably have an introductory workshop at the end of the school year, followed by a beginning of school workshop. He plans to have workshops conducted by the teachers who have already used the program, which will both save on expenses as well as establish resource people in the area who have personally used the program and are able to help others.

COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)

Orange County Boys' Clubs

California

Overview

The CLASP program uses nonsmoking role models to teach young people how to resist social pressures to smoke. Cross-age peer leaders, generally high school students, are trained to conduct group discussions, skits, role playing, and other activities with junior high-aged youth. The model schedule includes three core sessions of an hour duration, followed by six visits at two-month intervals throughout the school year. The program has been replicated and evaluated at diverse sites by the original model developers from Stanford University, California. A detailed guidebook has been created for training the peer leaders and implementing the program, and materials include scripts for the peer leaders, slides, and worksheets. The replication of the project at the Orange County Boys' Clubs marked the first time CLASP was used in a setting other than the classroom.

Background

In January 1980, the Boys' Clubs of Orange County became part of a national collaborative health education effort to improve the health of their youth membership. The Area Collaborative Health Project involves staff sensitization, program development, the creation of a health library, and resource networking. The coordinator of the Orange County Collaborative Health Project was particularly interested in CLASP because it matched the goals of the health project, and because its use of peer leaders is congruent with the general mission of all Boys' Clubs.

Planning

Shortly after the Boys' Clubs Area Collaborative Health Project was selected to conduct the CLASP program, two Stanford graduate students associated with the model CLASP program and an AIR staff member met with the coordinator of the health project and her assistant. The Stanford students provided an orientation to CLASP, and the group discussed how the program might be adapted to the Boys' Club setting. The coordinator felt the program would be most successful with intact groups such as basketball teams.

The teams, made up of boys in the fifth through eighth grade age range, are coached by older members who are generally 17 or 18 years old. Coaches are respected role models and have weekly contact with their teams throughout the fall and winter basketball season. The group agreed that this was the most realistic option, although the two model consultants expressed some doubt that the program could work well in a non-school setting.

After a memo was sent to all Orange County Area Boys' Clubs to recruit sites, two of the larger, more enthusiastic clubs were selected. At one site, coaches were chosen to serve as peer leaders. At the other, members of the Keystone Club (older boys who, though not coaches, work with younger boys on various activities) were selected for training as peer leaders. Training at each site was coordinated by an administrative staff member associated with that particular Boys' Club.

During the following month the coordinator obtained the approval of the Boys' Clubs' Board for the activities, and met several times with the administrative staff at the two Boys' Clubs. Since the script in the CLASP handbook was prepared only for peer leaders working with seventh graders in intact junior high school classes, the administrative staff had to adapt the script and instructions to their setting in order to train the peer leaders.

In late October, a second meeting was held between the coordinator, the Stanford consultants, and several staff members at the two sites. During the meeting, the Boys' Clubs staff gained a clearer understanding of the program, although the Stanford consultants still had some difficulty transferring CLASP to the Boys' Club setting. At this meeting the consultants also spoke with peer leaders who had been selected. The following day the AIR project director met with staff to clarify the program further and visit one of the clubs.

Training was begun for the peer leaders at both sites in November. At the site using basketball coaches the training period was difficult. The coaches appeared to lack motivation and had problems in working together, most likely because their role as coaches identified them as competitive, not collaborative, with one another. Because of the problems in training peer leaders, the coordinator recognized that a successful program could only be achieved by revising the script to hold peer leaders' attention and shortening the program to fit the Boys' Club setting.

She was determined that the program succeed, and, therefore, recruited a local high school's "Key Club" students as peer leaders. This group, comprised of students similar in ethnic background to the younger boys at the club, was offered funds to purchase materials for activities. They were allowed to keep the leftover funds as stipends. Many were well-known in the youth gangs of the local barrios. For most, this was their first opportunity to be involved in community service and their participation offered them a sense of social acceptance and achievement. The coordinator meanwhile believed that the younger boys, many also from barrios, would look up to the Key Club members and find them realistic role models.

Activities

The shortened version of CLASP was implemented with all of the basketball teams at one of the clubs. The coordinator, assisted by the peer leaders, had revised and rearranged the script into four sessions instead of the original nine. The teams spent one hour each week usually devoted to practice taking part in the CLASP activities. The coordinator and staff at the Boys' Club actively encouraged the peer leaders to be flexible and creative with the scripts, conveying the necessary information in a manner that would interest the younger boys.

In the first session peer leader ex-smokers presented testimonials, all peer leaders demonstrated pressures to smoke via a slide show, and then discussed drug-related issues. In the second session the younger boys learned responses to peer pressures to smoke, again through a slide show, and role played their own responses to common pressures. Participants later indicated that role playing had been their favorite part of the program. At the third meeting the group discussed cigarette advertising and the younger boys designed buttons with antismoking messages. In the last session, everyone discussed what they had learned, watched a movie (the ACS film, "Who's in Charge Here?"), and talked about ways to help others to quit.

Effectiveness

The staff and peer leaders at the Boys' Club believed that the program had a positive impact upon all the youth involved. Since the target population consisted of fifth through eighth graders, several believed that

many youth were too young to have experienced smoking pressures (or to have experimented with cigarettes), but that the program will stand them in good stead as they grow older. They also felt it was difficult to hold the attention of the youngest participants, and that if they are to be included, more action-oriented activities must be used. Staff felt that the greatest value of the program was the reinforcement of the nonsmoking message.

All of the participants reported that they liked the program, and 10 of 15 nonsmokers indicated that it had helped them decide to never begin smoking. Two smoking participants stated that the program had helped them to quit. Most stated that they had learned new things, and that their friends would like the program. Several of the youth felt that the most important thing they learned was to say no to their friends and older peers.

Cost

This replication cost about $800 to implement. The majority of the expenses involved the purchase of CLASP materials, slides, A-V equipment (rental), paper and xerox costs, with $200 going to the peer leaders to cover their own purchases for the program and stipends. Costs would be considerably less at sites where the necessary equipment and supplies are readily available. At sites where a highly motivated group of peer leaders is used, a stipend may not be necessary, and course credit might be substituted.

Recommendations

The length of the program was a problem, and the effectiveness of CLASP may be limited by the difficulty in implementation at non-school sites. The fact that the program succeeded appears primarily due to the coordinator's work in rearranging and revising the scripts and the time-line. Because the CLASP program is tightly structured, it may discourage flexibility and imaginative or creative adaptations.

The coordinator does believe, however, that both the short and original versions have merit. Depending upon the nature of the site, the shorter version may prove more practical and effective for maintaining commitment. The longer version may have more impact on the participants' retention of the information and the nonsmoking messages. The coordinator plans to attempt the longer program again once the short version of CLASP is an

established part of the Boys' Club activities. Meanwhile, there are two sets of trained peer leaders: the high school Key Club members, and the older boys belonging to the Boys' Club's Keystone Club. The latter is now in the process of implementing the short version of CLASP. One way the coordinator hopes to improve the effectiveness of the short version is to have club members participate in the program once a year as an established part of the basketball season. In this way, many boys will participate in the program several times. Activities will vary yearly, so that interest will be maintained.

The coordinator believes an important outcome was the sense of commitment and importance the high school peer leaders derived from participating in the program. They offered changes and suggestions for revising the CLASP manual, and were encouraged to be flexible with the script. Staff made these boys feel that it was their program. All of the Key Club peer leaders want to continue doing CLASP with other Boys' Club groups, and are willing to work without reimbursement.

Other sites interested in this program should consider whether the short or long version would better suit their needs. The experience of this site, although sometimes frustrating, was ultimately a positive one due to the willingness of staff to adapt the program to the requirements of their own setting.

COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)

Loma Linda University and Yucaipa School District

California

Curriculum

The two primary resources in the CLASP program are a curriculum manual and the Peer Leaders' Guide. The curriculum manual contains the scripts that guide the peer leaders and outlines the following information:

- Description of the project
- Previous evaluation and results
- How to get the program started
- How to select and train peer leaders
- Curriculum outline

Day 1: Small group discussions centering on the question: "Do you want to become a regular cigarette smoker?" Taped testimonials from high school students who did get hooked. Slide show on the various pressures to smoke, narrated by peer leaders.

Day 2: Slide show of pressure situations, with peer leaders modeling appropriate responses. Development of skits resolving pressures to smoke in social situations.

Day 3: Presentation of skits in class.
Discussion by peer leaders on helping others to quit.

Follow-up Sessions

1: Movie and discussion of pressure situations

2: Videotapes of peer pressure situations; role-playing to resolve situations shown in videotapes

3: Slide show on cigarette advertising and "Design a Button" contest

4: Movie and peer pressure game

5: Assertiveness training skit, discussion, and role plays

6: Review of pressures; movie; goal-setting for the summer

- Keeping it going
- Other resources for younger students

Background

The Yucaipa Unified School District has collaborated with Loma Linda University's Department of Health Education on a number of projects. Most of these have involved the department's graduate students, teaching district students health education courses, such as nutrition or physical fitness. Both the health education department and the school district viewed the CLASP program as a new and valuable joint endeavor, and planned to have the graduate students train peer leaders.

Planning

Shortly after the university and the school district decided to collaborate on the CLASP program, a training workshop was held, led by two graduate students from Stanford who had extensive experience in assisting schools in setting up the CLASP program. In attendance were the head of the health education department at Loma Linda University, the Assistant Superintendent of the Yucaipa School District, the graduate student who was to coordinate the program, and an AIR staff member. The principal of the participating junior high school (whose seventh graders would receive the intervention) and assistant principal of the participating senior high school (from which the peer leaders would be selected) also attended the meeting.

Several decisions were made during the meeting about the organization of the program. The high school principal assumed responsibility for recruiting the peer leaders and arranging their transportation, and absence from class to conduct the program. The University department head took overall responsibility for peer leader training, which was to be conducted by graduate students in her department. The program was planned to take place in two seventh-grade classrooms throughout each period of the day in order to cover the entire seventh grade (10 classes).

In the fall both graduate and high school students were recruited for the CLASP program. Ads were placed around the high school and teachers recommended students to the associate principal from the pool of those who

expressed interest. Graduate students were selected by the department head and her assistant who would coordinate the peer leader training. Ten intact seventh grade classes began the program activities in mid-November; the two involved in the AIR study were seventh grade math classes.

Training of the peer leaders involved about 60 hours of both graduate students' and peer leaders' time. A total of 15 peer leaders and 12 graduate students participated in the program. The peer leaders all received T-shirts, paid for by the PTA, which they wore throughout training and implementation.

Activities

The primary component of the CLASP program consists of three hour-long sessions held on three consecutive school days. The first session involves small-group discussions, each led by a peer leader, in which seventh graders discuss their attitudes about smoking, and taped testimonials of high school aged ex-smokers and a slide show on the various pressures to smoke. During the second day, students learn about responses to pressures and develop skits depicting typical pressures and appropriate responses. At the third session the junior high school students present their skits to one another, and the peer leaders discuss how to help other people quit smoking.

This initial 3-hour intervention is followed by six follow-up sessions held approximately six weeks apart. In these sessions, pressures are reviewed through a variety of activities and several films (including "The Feminine Mistake," which was the favorite at Yucaipa), and participants are taught basic assertiveness skills.

Since the total program was conducted at Yucaipa in a 3-month time span, some of the follow-up activities had to be condensed. The staff was not able to obtain two of the films recommended in the CLASP materials ("Trying Times" and "Too Tough to Care"), but found substitutes from the American Cancer Society. Otherwise, the graduate students and peer leaders followed the model closely. In addition to conducting the training, the graduate students were also present at the classroom sessions to observe and support the peer leaders, and to assist in the classroom activities as necessary.

Effectiveness

The staff involved in the program responded favorably to most aspects of CLASP, and felt it had been a success. They believe that the most positive aspects of the program are: (1) its effect upon the (present or potential) smoking behavior of the participants, (2) the soundness of the behavior change technique upon which CLASP is based, (3) the growth in the lives of both peer leaders and graduate students resulting from their interactions with one another, and (4) the confidence instilled in peer leaders in their own ability to impact upon the lives of others. Staff were also positive about the program's use of peers as role models, and its focus upon values clarification and decision making skills. All staff believed that the skills students learned would also carry into areas of their lives other than smoking.

Students liked the project. Of the 19 who stated they were smokers, 15 indicated that the program helped them to quit. Most of the seventh graders believed that their friends would like the program, and all felt that they had learned new things. For about half the students, the new information concerned behavioral insights that could help them cope with many peer pressures. They learned that it's okay to say no to friends, and that if you don't want to go along with the crowd it doesn't mean you are a misfit or not "cool." Most students indicated that their favorite part of the project had been the skits and movies.

Cost

This program cost about $2,000 to initiate. Costs include the curriculum guides (for staff), student scripts, slides, purchase of films, and peer leader expenses (which include transportation and refreshments). The model developers have prepared slides for the program; however, groups may wish to make their own. Expenses can be reduced by renting rather than purchasing films.

Recommendations

Some of the experiences with this particular replication of CLASP provide some practical suggestions for future program implementations. There was usually enough material to fill an the entire class period, but since the structured peer leader role does not easily permit improvisation, supplementary activities should be planned for the gaps that can occur.

The program was conducted within a shorter timespan than that recommended. This can be especially difficult for the peer leaders, who must miss several of their own classes in a short period of time in order to conduct sessions at the junior high school. Since the collapsed time span made for more frequent sessions, some seventh graders found the material repetitive. Therefore, the recommended time schedule of the model program appears to be better for everyone involved.

The program involves organized communication as well as commitment from a number of persons who usually are not in contact with one another or located in the same setting. The principals of both of the junior and senior high schools must support the program; teachers and parents must be willing to let the peer leaders miss their usual classes and work late after school on their scripts. The junior high school teachers must be informed well in advance of the session times so that usual classroom activities are not disrupted.

A great deal of effort must go into the planning of the program, to assure that all persons involved understand the program schedule and time commitments involved. Care must also be taken in selecting peer leaders who are doing well academically and can therefore afford to miss class. Peer leaders also should have few other after-school activities, as these may interfere with the training. The Yucaipa group is considering adding the training as an elective in the high school curriculum for qualified students, thereby eliminating time conflicts encountered with this replication.

LIFE SKILLS TRAINING

Bridgewater-Raritan Regional School District

New Jersey

Overview

The Life Skills Training (LST) program focuses on the major social and psychological factors that promote cigarette smoking among adolescents. The main emphasis of the program is on developing basic life skills and increasing personal confidence. Specifically, the program is designed to (1) provide seventh grade students with the necessary skills to resist peer and other social pressures to smoke; (2) help them to develop greater self-esteem, self-mastery, and self-confidence, thereby decreasing susceptibility to pro-smoking influences; (3) enable students to cope effectively with social anxiety; and (4) increase their knowledge of the immediate consequences of smoking. Program materials include a teacher's manual, student guide, and audiotapes with relaxation exercises and anxiety coping techniques. The program was originally developed at the American Health Foundation in New York City, and is now based at the Department of Public Health of the Cornell University Medical College.

Background

The Supervisor of Instruction for the Bridgewater-Raritan Regional School District had been interested in locating a smoking education program that would reach students before most smoking usually begins. He was especially interested in Life Skills Training because it uses a variety of innovative approaches. He also knew that there were supportive teachers in the district who had taken part in smoking cessation inservice courses.

Planning

Over the summer the district supervisor, as coordinator of the Life Skills Training project, selected the middle school in which implementation would take place. Together with the principal, the coordinator planned the program using a team approach, with the math, science, and social studies teachers working together with two seventh grade classes.

Shortly before the beginning of the school year, the coordinator met with the three teachers to fit the program into the regular class schedule,

and provide a brief introduction to the program. In late September a training session was conducted by the model developer, who described the history and philosophy of the program in depth and answered questions. He presented a second training workshop just prior to the beginning of the program, which focused more on teacher behaviors and classroom methods.

Activities

The 12-session program took place over a 6-week period. Several sessions provided students with the skills and resources to believe in themselves and make their own decisions, including: "Decision Making and Independent Thinking;" "Self Image and Self Improvement;" "Coping With Anxiety;" and "Assertiveness and Social Skills."

The teacher teams used the detailed teachers manual for help in planning each week's sessions. The staff added several other resources such as films from the Cancer Society and Lung Association. From discussions of student responses, the teachers decided to exclude the section on dating, which seemed more appropriate for an older audience, and to revise the section on assertiveness training to include more realistic situations for their particular students. Another session in the project involved demonstrations of biofeedback equipment: the coordinator had been successful in obtaining the necessary equipment, and plastic "lungs" were used to demonstrate the effects of smoking using the ecolyzer. This machine, borrowed from a local industry, was also used by the PTA to demonstrate to parents the immediate effects of smoking. The use of biofeedback equipment with parents was a result of the enthusiasm with which the seventh graders had reported to their parents about the program.

Effectiveness

Teachers, students, and parents all responded positively to the program. Teachers felt that their rapport with students, as well as with each other, improved dramatically through their participation. The participation of teachers from different disciplines allowed them to communicate in new ways that improved their professional relationships.

Most of the teachers felt strongly about what they saw as the positive benefits of the program, especially the aspects that deal with decision making and communication skills relevant to other areas of a student's life

besides smoking. As one teacher stated, "Everything in this program will help the students lead better and more fulfilled lives if they apply what was discussed and hopefully learned. In my opinion, each student as well as each leader who participated in the program came out of it a far better person." Teachers seemed to believe that the smoking element of the program probably had the greatest impact upon those students who were contemplating starting smoking. They believed that most students did not smoke. While the focus on life skills appears to be comprehensive and effective, other forms of conditioning and reinforcement may be necessary to strengthen the specific antismoking message in order to influence current smokers' behavior.

Most students indicated that they liked the program and had learned new things. Of the three professed smokers, two indicated that the program had helped them to quit. About one-third of the students indicated that group discussions were their favorite part of the program. When asked what they learned about themselves, students said that they learned to be more assertive and to say no.

Cost

The cost of the program was between $2,500 and $3,000. This cost included the copies of the Life Skills Training materials (teacher's guides, student workbooks, and tapes), and the purchase of the biofeedback equipment (tremor test, tachometer, and digital thermometer). Costs will vary depending upon the size of the adolescent group and whether or not biofeedback equipment is purchased. The ecolyzer is by far the most expensive piece of equipment, and the coordinator, in this case, was able to borrow one. He plans to videotape one of the sessions using the ecolyzer in the future for use in other classes, so that borrowing or purchasing the costly instrument will no longer be necessary.

Recommendations

This replication went quite smoothly at the administrative and classroom levels. The coordinator believed that some additional materials are necessary to supplement several of the sessions. These serve to reinforce the antismoking message (while much of the Life Skills Training content focuses more upon skills acquisition) and can be obtained from local health

organizations at low or no cost. A careful review of the sessions and good planning can help staff identify sessions where additional materials would help, and to obtain them well in advance of use.

Because much of the content of this program looks at issues that may be considered sensitive and personal, and even controversial, it is important that teachers (1) review the materials closely beforehand to determine appropriateness for their students; and (2) be regarded by students as fairly "open", trustworthy and nonthreatening. It is also necessary that teachers feel comfortable discussing decision making and communication behavior with students and personally believe in the program's philosophy and goals. The use of team teachers from different disciplines worked very well for all involved, and may be an excellent mechanism for increasing both teachers' and students' comfort with and enjoyment of the subject material.

LIFE SKILLS TRAINING

Binghamton General Hospital

New York

Curriculum

This comprehensive program makes use of a variety of educational techniques to inform seventh graders of the social and psychological factors that influence teenage smoking. The 12 sessions in the program cover the following themes:

I. Orientation: Students learn purpose, goals, and rules of program

II. Smoking: Myths and Realities

III. Smoking and Biofeedback

IV. Self-Image and Self-Improvement

V. Decision Making and Independent Thinking

VI. Advertising

VII. Coping with Anxiety

VIII. Communication Skills

IX. Social Skills

X. Social Skills: Dating

XI. Assertiveness

XII. Conclusion: Review

Background

Staff at Binghamton General Hospital were interested in initiating smoking education programs in their community. They believed that they could be most successful in this effort by collaborating with local school districts to reach youth in the area. Since coordination would be by an outside agency, he staff preferred a program that offered optimum structure in the classroom.

Planning

The coordinator of the Life Skills Training replication, an administrative consultant at Binghamton General Hospital, met with supervisors at two school districts in and near Binghamton to explain the program activities and schedule. Together, with the Health Coordinator at Vestal Central School District, one of the interested districts, two seventh grade health classes (comprising about 50 students) taught by the same health education teacher were selected. The Health Coordinator supervised the program implementation for the school district.

The program coordinator began to assemble equipment for the biofeedback component of the program. He obtained a cardiotachometer (which measures fluctuations in pulse) and a digital themometer (to measure skin temperature) from the hospital. The tremor test equipment was built by the hospital's engineering department. The local Lung Association borrowed an ecolyzer for the program from a neighboring Lung Association.

The coordinator arranged a press conference in August attended by Binghamton Hospital representatives, the local media, the school district health coordinator and health teacher, and the original model developer from Cornell Medical. The conference was covered by both community newspapers, the local ABC, CBS, and NBC television affiliates, and several area radio stations. During this visit, the model developer also met with members of the school district and with the health teacher to discuss activities in detail.

Activities

Life Skills Training consists of 12 sessions aimed at preventing students from becoming regular smokers and teaching them basic life skills to make their lives easier and more enjoyable. Sessions include smoking myths and realities, biofeedback, self-image and self-improvement, decision-making, advertising (its relationship to smoking), coping with anxiety, and acquiring communication and social skills. A student workbook and teacher's manual are used, and a tape on relaxation has been created for the session on coping with anxiety.

While peer interaction is an essential component of the program, peer instruction was not used. (The pilot study for LST used peer leaders.) Because the program involves student discussions about "sensitive" areas

such as dating and assertiveness, it is important that students feel comfortable with one another. The teacher can facilitate this by maintaining good rapport with students and a non-judgmental attitude.

Effectiveness

The majority of the students participating in this program stated that they liked it "a lot." All the students felt that they had learned new things, and most believed that their friends would enjoy the program. The participants particularly enjoyed the discussions and the experiments with the biofeedback equipment. Almost half of the students stated that they learned through the program to be more assertive and that it is okay to say 'no' to peers and others.

The teacher responded very favorably to the program, stating "It creates an alternate mode of teaching that enables the student to 'learn' in a different environment. This program provides more student participation and is less teacher-oriented." The coordinator of the project supported these favorable opinions with the statement, "...it appears that the program is a 'breath of fresh air'... All class teachers that have been exposed to the program have welcomed its inclusion in their school district, and my impression is that the students found it more interesting than the traditional fare of smoking education."

Cost

The program was not costly, due in part to the fact that most of the biofeedback equipment was borrowed rather than purchased. The booklets used by the students cost about $1.50 each, and the teacher's guide (which can be reused) is $18.00. Audiotapes developed specifically for this program were also purchased. Depending upon the number of students involved, the program can easily be conducted for several hundred dollars or less.

Recommendations

This program involves biofeedback equipment, which is used only during one session. It is useful therefore to make contacts with other organizations that either own the equipment or are knowledgeable about possible lending sources. Because the coordinator was affiliated with a hospital, all equipment but the ecolyzer (which is the most expensive of the equipment, costing about $2,000) was readily available.

Hospital sponsorship was successful. But certain administrative details may be easier if a school-based program like Life Skills Training is primarily sponsored by a school board or district. More time than the coordinator had anticipated was spent to make sure that all equipment and materials were delivered to the school on time. The program encountered no real problems because good rapport was established and maintained between the hospital and the school district.

The coordinator recommended that this program be considered for younger age groups. As he put it, "The teaching of 'life skills' is an important component of the education process. I personally would like to see a program like Life Skills Training begun at an earlier age than that of the seventh grade. Unfortunately, we find that many seventh graders are already experienced smokers and/or narcotics users. Improved life skills in the early years of education can only serve to minimize the alcohol, tobacco, and narcotics abuse that we see in our junior and senior high schools. It can also serve as an aid in the better education of our youth."

PREGNANT TEENAGERS EDUCATION PROGRAM

American Lung Association, San Jacinto Area

Texas

Overview

The Pregnant Teenagers Education Program was developed by educational psychologists at the University of Minnesota and first implemented in youth centers for pregnant teens in the St. Paul/Minneapolis area. The project encourages teens to learn about the effects of smoking on themselves and their unborn children by developing their own smoking education programs and then presenting the information to peers. The girls begin by reviewing materials about smoking and watching films. They then incorporate the information they found most effective and interesting into skits, songs or posters and present these to other pregnant teens. They are assisted by facilitators (older role models) who provide structure and help the girls as needed.

The program can be implemented in schools and other settings, and is well-received by the entire adolescent age range and all ethnic groups and socioeconomic levels.

Background

The San Jacinto Area Chapter of the American Lung Association, located in Houston, had been interested in smoking education programs, and especially wanted to reach the population of pregnant teens in the 12-county area they served. After the Executive Director of the Lung Association discussed the Pregnant Teenagers Education Program with the principal of a local high school for pregnant adolescents, the principal agreed to have the girls participate.

Planning

The Executive Director then contacted the Health Services Director of the Houston Independent School District, who supported the idea and helped to obtain school board approval to implement the program.

Most of the program planning took place in early fall with the educational program administrator at the Lung Association spending about half of her time coordinating activities related to the pregnant teens program.

Meetings were held between the coordinator, principal, and assistant principal of the school. It was decided that graduate students from the Department of Health Education at the University of Houston would serve as facilitators. The Department Head selected students who would interact well with the pregnant girls and provide appropriate role models. Program staff decided to recruit pregnant girls at the high school by offering incentives such as baby items and small cash awards to participants. They planned to hold classes twice a week for one hour during students' free period in the afternoon.

By mid-October, the 52 smoking and non-smoking girls at the school who had expressed interest in the program were given parental permission slips to be signed. Three Black females were selected to serve as facilitators, for which they would receive $100 and course credit.

The program coordinator assembled materials to be used with the students, including publications and audiovisual resources that described the risks of smoking to pregnant mothers and their unborn children. One department store and a bank donated money, and a pharmaceutical company donated packages of samples of commercial products especially for expectant mothers.

In late October the model developer met with the three University of Houston students to train them for their roles as facilitators. The student leaders viewed videotapes of the model program and reviewed information about the theoretical background of the program (experiential learning) and group dynamics.

Most of the planning for the replication had taken place over a one-month period, and involved weekly meetings (by phone or in person) between the coordinator and school personnel. The bulk of this time was spent in obtaining materials, including supplies, for the students.

Activities

Forty-seven students participated in the program. The number of participants differed from that of the original number of volunteers because only those girls who returned signed permission slips to the school were able to participate.

A total of 10 one-hour sessions were held in which four groups of students, assisted by the three university students and the coordinator,

reviewed materials and planned and presented an assembly for those girls at the school who had not participated in the program. A roll sheet was used to keep track of those girls who were absent due to childbirth.

The first five sessions were spent reviewing materials, which the coordinator had obtained from the American Lung Association, American Heart Association, American Cancer Society, March of Dimes, Alcohol Abuse Program, American Diabetes Association, and others. Materials included a film, "I'm Sorry, Baby," a filmstrip entitled "Smoking and Your Baby," and the Teenage Self-test on smoking.

The next three sessions were spent planning the assembly presentations. Students especially enjoyed this aspect of the program. The assembly presentations were: a puppet show (using "pregnant" socks), a song routine, a trial (Supreme Court vs. Mrs. Virginia Slims), and a skit taking place in a clinic waiting room. The audience, consisting of the other girls at the school and the school staff, responded enthusiastically to the humorous presentations.

Effectiveness

Almost every student participating in this program stated that she liked the program very much. The four smoking students stated that the program had helped them to quit. The majority of the nonsmokers felt that the program had helped them to decide not to start, with the remainder stating that they had already decided not to smoke before they participated in the program. Almost all of the students felt that the program would appeal to their friends and peers, and that they learned many things they hadn't known before. Although the presentations were clearly their favorite part of the program, the students had no negative comments about any activities. When students were asked what they learned about themselves, their responses generally focused upon a determination not to smoke.

The effectiveness and appeal of the program were evident during the assembly activities, as demonstrated by the commitment of the students to practice and perfect their presentations. After the assembly, several students in the audience asked the coordinator if there would be another project in which they could participate. The school's principal was also pleased with the program, stating that there were now fewer smoking violations and that the students appeared to be a closer-knit group.

Costs

AIR provided the American Lung Association with a $1,000 stipend to conduct the program. Most of the money was used to reimburse the students and counselors who participated. The coordinator believes that, while the counselors should receive course credit for their effort, a financial remuneration may not be necessary. She also believes that participating students do not need cash incentives in addition to baby supplies, although one or the other should definitely be provided. Additional expenses included refreshments served after for the assembly, and the purchase of the film, "I'm Sorry, Baby."

Recommendations

There are several experiences, both positive and negative, which are unique to this replication and are likely to benefit others implementing the model program in the future. First, the coordinator wrote letters to local stores and drug companies requesting cash or item donations. This is an excellent way to offset project costs and increase awareness of the program (and the sponsor) throughout the community. A board member of the Lung Association contacted a local bank which donated $100 to the project. The coordinator suggested that, to secure donations:

(1) identify the appropriate person, write them directly, and then follow up the letter with a phone call, and

(2) where possible, have a key organizational official, such as a director or board member, communicate with the businesses.

There was a problem encountered with the university students, who had trouble maintaining their commitment despite the generous stipend and course credit. The coordinator suggested that a contract, drawn up, agreed upon, and signed before the program begins would help to eliminate this problem. It is essential that counselors honor their commitment as the students admire and depend upon them, and are hurt if counselors cancel or arrive late.

In any program involving pregnant teens, the absentee and attrition rate will naturally be fairly high. But it will be higher if the students feel uncomfortable with the counselors or vice versa. It is important that all staff involved in this program have awareness of and sensitivity towards the concerns of the girls, and feel comfortable working with this special population.

PREGNANT TEENAGERS EDUCATION PROGRAM

New York Lung Association

New York

Curriculum

Youth are encouraged to develop their own smoking education programs and give presentations to their peers in this antismoking program for pregnant teenagers. Participants review films, literature, and posters obtained from a number of sources to learn about the risks of smoking and to generate ideas for presentations. The underlying assumption of the program is that smoking cessation during pregnancy is more likely to occur if teenagers actively participate in designing antismoking interventions.

The program uses materials that can be readily obtained, most at no cost, from existing sources. Organizations that distribute relevant films and literature include:

American Lung Association American Heart Assocation
American Cancer Society
Office of Cancer Communications/National Cancer Institute
Office on Smoking and Health
National Interagency Council on Smoking and Health
March of Dimes

While no specific timeline is associated with the program, three months is generally adequate. The first month should be devoted to planning and gathering resources. The coordinator of the project should take responsibility for collecting materials. Youth can meet weekly or twice each week during the second month to review the materials. They may want to meet more frequently during the third month as they plan and rehearse their presentations.

Group facilitators or teachers attend the initial sessions to provide structure to the materials review process and initiate discussions among the girls. Once the participants begin planning their presentations, it may not be necessary for adult leaders to attend every session, except to be available to help as needed.

Participants should be urged to be as creative as possible in creating their presentations. Sponsoring organizations can help by budgeting for supplies and materials. Examples of presentations given by girls in other replications include:

- Posters and collages created from media imagery
- New slogans about smoking and health dangers
- Charts of cost comparisons of smoking versus baby supplies
- A story about smoking illustrated with posters
- A videotaped play about the dangers of smoking
- A puppet show with "pregnant" socks
- A song and dance routine
- Skits of trials (e.g. Supreme Court vs. Ms. Virginia Slims)

Background

The New York Lung Association's Board of Directors had designated smoking education a high priority among its activities. Because New York City has a high incidence of teenage pregnancies, and because so few interventions exist for this hard-to-reach population, the Lung Association was particularly interested in the Pregnant Teenagers Education Program. The coordinator for the proposed replication had conducted a number of smoking cessation classes, and had developed a smoking education and cessation program for pregnant women. She obtained permission to run the program from the principal of one of New York City's five schools for pregnant teens.

Planning

The coordinator (a Program Manager at the Lung Association) met in late spring with representatives of the school to explain the program in more detail. During the summer months the coordinator collected materials from the Lung Association, National Interagency Council on Smoking and Health, the Cancer Communications Clearinghouse, and various organizations (including the Cancer Society and Heart Association) throughout the country.

In September a second planning meeting was held between the coordinator, the two teachers who were to serve as facilitators, and the principal. During this meeting, a training session with the original model developer planned and two intact classes were selected for the program.

The model developer met with the facilitators and the coordinator in early October. During the meeting specific activities were planned for the

initial sessions and materials were discussed. The coordinator agreed to provide films and biofeedback equipment.

Activities

A total of 27 students in two intact classes participated twice weekly in the program. In one of the first sessions the coordinator demonstrated three pieces of biofeedback equipment (ecolyzer, tremor test, pulse test) to both classes. The demonstration of the effects of just one cigarette was dramatic and effective for the students. In one class, students took photographs of one another using the equipment for later use in their assembly. In subsequent sessions the students reviewed materials. The most popular and effective resource appeared to be the movie, "The Feminine Mistake." Students also took the Teenage Self Test on smoking and collected and discussed cigarette advertisements from magazines. In one session, testimonies by student ex-smokers were given, and participants discussed how hard it is to quit.

Midway through the November sessions the teachers and coordinators met again to discuss progress. The teachers felt that some of the activities and materials had incited both interest and lively discussion among the students, but that neither group appeared to have much interest in planning presentations. It was felt that students would not have their projects ready before the holidays unless they started meeting more frequently and increased their motivation. The teachers then scheduled sessions every day for the first half of December and offered the girls an incentive of one dollar for each session attended. Class credit and grades were also offered as incentives.

The coordinators purchased materials (scissors, poster paper, etc.) for the students to use in preparing their presentations. Since the school has inadequate materials (due to city budget cuts) the girls were pleased to get these materials which they were allowed to keep.

Interest did pick up as the girls began to plan for the presentations. One group made posters and developed an illustrated booklet containing cartoons with anti-smoking messages. The other group prepared two plays and two songs. One of the songs, "Smoker's Delight," was based on a popular song and met with great success at the assembly.

Effectiveness

About half of the girls smoked cigarettes. Most of these students felt at the beginning and by the end of the program that they had plenty of time to quit and assumed they would be able to when the time came for them to make an effort. The information about the effects of smoking upon the fetus appeared to have little impact upon these smokers. The coordinator believed the value of the project resided more in strengthening non-smoking behavior in those students who never started. The project did however have an impact upon at least one smoker: one of the teachers decided to quit and has done so successfully.

All of the students except one indicated that they liked the program very much. Most of the girls who did not smoke stated that they had now decided never to smoke. All but one felt that their friends would like the program. Almost all of the students indicated that they had liked everything about the project, and several felt that they felt good about delivering important information to their peers. One of the teachers summed up the benefits of the program as follows: "I believe that the girls who worked on this project have internalized most of the information and they will have it for life. I think this method of teaching is excellent: The girls learned how to research materials, and to produce and finish a project."

Cost

The coordinator believes that a minimum of $750 is required to replicate the program. This cost covers compensation for participants (each student received ten dollars: this group preferred receiving cash rather than baby supplies), transportation of the coordinator to and from the site, and materials and supplies used in the presentations and earlier sessions. If the students wish to do more complex projects (such as videotapes), more money is required. It is important to give students the freedom to be as creative as they can: therefore funds for presentations should not present too many constraints.

Recommendations

The coordinator has several suggestions for improving the program and plans to implement these in future replications. The teachers who facilitated the program felt that they could have been more effective if they had

more preparation time. Although they learned about the program well in advance of its implementation, they were under the impression that little preparation time was required for their role as facilitators. In this case, however, the teachers needed to structure activities and discussion in imaginative ways to incite enthusiasm among the students. The consensus was that once students got involved in a project or discussion they became more self-motivated and independent as a group. The facilitator role, however, should not become too structured, and lecturing should be avoided. Students should be encouraged to make their own decisions about the general theme of nonsmoking behavior and improved health, as well as the more specific program activities.

This program was implemented with girls from lower economic environments and with many sources of stress in their lives. It is important that facilitators working with groups such as this be sensitive to their needs and realize that, given all these stresses, smoking cessation may not be a top priority. Facilitators should not push the girls too hard, but they can indeed transmit or model good decision making skills that can assist the students in many areas of their lives, including decisions about smoking.

SCHOOL HEALTH EDUCATION PROGRAM (SHEP)

American Lung Association of North Central Indiana

South Bend

Overview

The School Health Education Program (SHEP) uses biofeedback equipment to teach adolescents about the immediate effects of smoking. The program was developed by the New Hampshire Lung Association and has been used extensively in high schools throughout that state. For one hour each day for one school week students in science and health classes experiment with equipment (which includes a cardio-tachometer, ecolyzer, digital thermometer and tension/steadiness test) and discuss differences in results between smokers and nonsmokers, and smokers before and after smoking. The program appears to work best with 10th through 12th graders, who are fascinated by the sophisticated equipment and who can more easily conceptualize the relationship between the test results and smoking hazards.

Background

The American Lung Association of North Central Indiana had been actively seeking funds from local, state, and national foundations to implement SHEP in their area. As a result they were well prepared to respond to AIR's request for sites interested in replicating model smoking education programs for adolescents.

Planning

The managing director of the Lung Association first met with members of the St. Joseph County School District (where South Bend is located), who had already expressed interest in SHEP. The school board administrators selected a school whose health class was well attended by sophomores and whose health teacher was enthusiastic and helpful.

In late June a training workshop was held with the managing director of the Lung Association (who served as coordinator of the replication), the Lung Association's health educator, the original model developer from New Hampshire, the health teacher, and AIR staff. The model developer, who brought the equipment with him, demonstrated the program in two summer health classes. On hand for the demonstration were reporters from local

television stations and newspapers. The chairman of the school board and the president of the Chapter Lung Association board also observed the demonstration. Television coverage was presented on the evening news the same day. The president of the Lung Association offered financial support in purchasing the necessary equipment.

During the next three months, the health educator obtained the equipment (the Lung Association purchased one complete set), printed the materials (instruction sheets for teachers and students, and tabulation forms for results), and scheduled dates for program activities. She met with the teacher several times during September to review equipment use. She found that the sensitive machines could vary in the responses they gave, depending upon factors such as physical condition of participants, presence of second-hand smoke, excitement or relaxation of participants, and prepared additional information for the teacher that detailed variations in results and machine sensitivity. She also added information concerning care of the machines since their upkeep throughout the program is essential.

The consultant from New Hampshire visited the site a second time in early October to provide additional training to the health educator and the teacher. Meetings between the teacher and the health educator took place by phone and in person about twice a week during the final planning phase.

Activities

Five health classes participated in the program, although only three classes were included in the AIR study. All students who participated in the program were required to obtain permission slips from parents, so that the students who smoked would be allowed to do so for testing physiological responses to cigarettes.

After the health teacher explained the purposes of the equipment, he selected students to collect and monitor readings. The health teacher and the health educator from the Lung Association were present at all classes to answer questions and make sure that all the equipment worked properly. Because the model program did not include special instruction sheets for the monitors, the health educator created a list of suggestions to assist the teachers in selecting monitors and facilitating their tasks. Each small group was led by a monitor who was responsible for a single piece of equipment as well as for documenting individual and group results.

The teacher began the program by explaining the machines to the students and passing out the equipment instruction sheets that are part of the model program. He viewed the intervention as an opportunity to teach the students scientific method, explaining how to formulate hypotheses and draw conclusions. He then explained that the purpose of the biofeedback project was to help students see the immediate effects of smoking upon the body; he did not, however, provide any other information about smoking at this time.

The students were divided into four groups with three student subgroups: smokers, nonsmokers, and nonsmokers exposed to sidestream smoke. Over the next four days, students tested themselves on the four pieces of equipment for an hour each day. The teacher went from group to group answering students' questions as they arose. The students recorded their responses before and after smoking (the nonsmokers simply waited while the smokers had a cigarette and then retested themselves at the same time). Several nonsmokers in each group accompanied the smokers into the "smoking room" in order to test sidestream smoke.

The five-day program was extended one day so that the results could be discussed among the entire class. On the last day, the teacher showed students how to collate all results and obtain averages. At this time too, the long-term effects of smoking were discussed. The health teacher followed the program with the traditional unit on smoking given to all classes.

Effectiveness

Most of the students were very impressed with the equipment, and were therefore excited about learning how to operate all of the machines. While little information was presented about smoking, almost all of the students were affected by seeing the results and were therefore determined never to smoke or to cut down if they were smokers. The impact of the sidestream smoke experiments was evident in students' statements that they now preferred not being around smokers at all. During the project, several students asked if they could bring in their friends and teachers who smoked to try out the machines. Several also used the ecolyzer in the school's machine shop to test the carbon monoxide levels.

Cost

The major expense of this program is the purchase of the biofeedback equipment, estimated by the managing director to total about $3,000. Although it is possible to rent or borrow equipment, if an organization plans to use the equipment district wide, purchase of the equipment is a necessity. It may be possible for a sponsoring agency to split costs with a school district. The managing director estimated that an additional $500 is necessary for printing student and teacher information and data sheets.

Recommendations

It is important to stress that this program is based on a scientific rather than affective approach. For this reason it is more likely to appeal to older adolescents who can grasp the scientific concepts and relate immediate physiological changes to longer-term impacts of smoking upon the body.

The model does lack supplementary educational activities in addition to use of the machines. While the experiments may jolt student smokers into quitting or cutting down, as with anything having shock value, the effects may not be long-lasting without reinforcing the learning. The managing director of the Lung Association suggested that, to strengthen the outcomes of this project:

1. Educate students on long-term physiological effects of smoking as they relate to the short-term effects the students are witnessing;

2. Maintain the non- and reduced-smoking behavior resulting from the biofeedback experiments by following up with affective activities such as coping with peer pressures, influence of family and the media, and guidelines for helping ex-smokers maintain nonsmoking behavior.

SCHOOL HEALTH EDUCATION PROGRAM (SHEP)

Ouachita Parish Medical Society

Monroe, Louisiana

Curriculum

The School Health Education Program is a student centered approach to learning. The students learn how to use the machines, run the experiments, and record the responses.

The program takes place during one school week with groups of students using a different piece of equipment for one class period each day. The machines include a cardiotachometer (measuring pulse), a digital thermometer (measuring skin temperature), and a hand tremor tester. On the fifth and last day the results are used as an educational tool in drawing conclusions about health and smoking.

The degree to which teachers or other adults participate in the program is determined at each site. SHEP developers suggest that activities be as student-oriented as possible, with a student in each group designated as a peer monitor who collects and tabulates results. On the fifth day the teacher conducts the final discussion of results and their implications.

Background

The Ouachita Parish Medical Society had been interested in smoking education particularly since the incidence of lung cancer is considered epidemic in Louisiana. The Medical Society believed that such a program would be most successful with a young population that has not yet developed engrained habits, and that can easily receive the intervention as part of regular schooling. Medical society members were aware of SHEP's popularity and effectiveness in New Hampshire. They obtained approval from the school board to implement the program in their parish and gained the support of volunteers from the Ouachita Medical Auxiliary.

Planning

One of the volunteers in the medical auxiliary assumed responsibility for coordinating the program replication. She recruited about ten other volunteers to plan the activities and to raise about $3,000 from local physicians to purchase a complete set of equipment.

In mid-summer, the AIR project director and the original model developer met with the volunteers to discuss the program and to help with detailed planning. The volunteers then prepared information packets for all participating schools and scheduled the program for September through December.

The model program recommends that science teachers conduct the program with ninth and tenth graders in regularly scheduled classes. The volunteers believed that they could reach the most schools in the least amount of time, and constantly monitor the sensitive and expensive biofeedback equipment, if they conducted the activities in the classrooms themselves. While this reduced time and effort in training teachers, it did necessitate keeping school personnel well informed of schedules and activities, so that no teachers or administrators were taken by surprise when the volunteers arrived at the schools.

The volunteers were trained by the model developer who demonstrated the equipment use in a summer school class. Additional training sessions were held for the volunteers over the summer, in which they learned how to use and maintain the equipment, tabulate results, and organize the schedule in the classroom. It was agreed that the biofeedback experiments should be supplemented by other smoking education activities, and additional teaching aids were collected from the Louisiana Lung Association and the American Cancer Society. This added dimension also required that the volunteers become knowledgeable about smoking facts and risks; as a result, they had a considerable amount of homework to do before entering the classroom.

In order to prepare school staff for the upcoming program, volunteers held teacher in-service presentations at each of the participating schools. Teachers were informed about the program's philosophy, objectives, activities and timetable.

Activities

The volunteers conducted all activities suggested in the model, and augmented them with introductions that they prepared using materials obtained from local health organizations. The 50 students in the participating tenth grade class were divided into four groups, and for four days each group worked with a different machine. The equipment included an ecolyzer, cardiotachometer, digital thermometer, and tremor tester. The

volunteers presented information about smoking, monitored equipment use, and helped the students tabulate the results.

Parental permission for all students was required so that students who smoked could do so, in order that their responses on the equipment could be compared with those of nonsmokers. This proved to be a problem as many students were naturally reluctant to ask their parents if they could smoke in class, thereby admitting they were smokers. Some student groups had no (self-admitted) smokers, and the volunteers had to recruit a few school administrators (not teachers, as these are stronger role models) who were smokers to provide a comparison group.

Effectiveness

The coordinator believes that the program was successful and she estimates that about 1,500 youth have now participated in the SHEP program in the Ouachita/Monroe area.

The youth participating in the AIR study reported that they had liked the project. Of the 13 who stated that they smoked, 6 said the program had helped them to quit. Most of the 35 nonsmokers had already decided not to smoke before the program, but 11 said the experiments had a decisive impact for them. The majority felt that the program taught them new things, and about half believed that their friends would like to participate in a similar program.

Students stated that their favorite part of the program was experimenting with the machines and learning about the effects of smoking upon the body. Most had nothing negative to report about the program, although about one fourth of the students reported their least favorite part was the introductory lecture by the volunteers.

Cost

Since this site planned parish-wide and multiyear use, the two sets of equipment were bought. The money required for the machines was made available by donations from community members (physicians). Other project costs consisted of the duplication of printed materials, totalling $300.

Recommendations

Although the financial outlay for the program is considerable, the human resources expended at this site were far larger. The method of using a team of volunteers, previously untrained in smoking education interventions, had both positive and negative aspects. On the negative side, there was considerable preparation, particularly since they decided to present introductory lectures. Such a task requires teaching aptitude (and preferably experience) and the ability to hold the audience's interest. The coordinator is now pursuing the possibility of using the trained volunteers to train teachers, who would then use the program with their own students.

On the positive side, the program has continued to expand throughout the Monroe area. A nearby medical auxiliary has expressed interest in the program and is eager to begin implementing it in their area. Various individuals and organizations have contacted the coordinator for information--the Louisiana State Medical Society, the director for health education at a Louisiana Indian reservation, and others out of state. The auxiliary will continue to sponsor the program, and plans to appoint a new coordinator yearly to keep the enthusiasm going.

3. RESULTS AND RECOMMENDATIONS

What Was Learned from the Ten Sites?

There were several purposes for evaluating the five model programs as they were implemented at the 10 sites. First, we wanted to verify our selection of the model programs by determining whether those programs had an impact on the knowledge, attitudes, and behavior of the participants. Second, we needed to test the ease of implementation and the appeal of the models, as adapted by widely differing organizations and sites. Third, we were interested in learning whether our methods for promoting health education programs worked, and finally, we wanted to find ways to improve the models so that successive implementations would increase the chances for better results.

Evaluation Methods

The methods used to gather information that would help us achieve the purposes of our evaluation included a comprehensive documentation of the activities and procedures at each site. The data collected allowed us to look at procedures that needed modifying, activities that were successful, problems that arose, and solutions that were attempted.

During the initial site visits, AIR staff trained coordinators to use reporting and record-keeping forms such as those included in Section 1 of this report. The progress report form, for example, asked for problems to be identified early on so that AIR staff and the model developers could suggest alternative strategies. This technique helped everyone to identify potential barriers to smooth implementation and to solve problems before any program component could fail.

Along with documenting program progress, AIR staff and the model developers made periodic visits to observe program events at the sites. These visits, although useful for problem solving and monitoring, also increased the visibility of the programs by showing all site personnel, students, and the general community that the programs were a worthwhile and important part of a nationwide effort.

At each program's conclusion, three additional assessments of progress at each site were made to examine the reactions of the participants. First, coordinators were interviewed about their experiences that could help others

implement similar programs. We asked about funding source and sponsors; time involved in planning and implementation; if and how activities differed from those of the model programs; staffing and costs; and perceived impact on youth knowledge attitudes, and behavior. The interview guide is included in Appendix A. The coordinators' responses are incorporated in the short case studies in Section 2.

The following questions were also asked of all the adult and peer leaders who participated in each program:

- What was your role in the smoking program?
- What experience or background do you believe a person should have to coordinate or teach this program?
- Would you like to participate in a program such as this one again?
- What do you think are the best features of the program?
- Are there any aspects of the program you disliked?
- Please discuss any problems you experienced in setting up or conducting the program.
- Do you think the youth participating liked the program?
- Do you think the program had any impact on those youth who were smokers at the time the program started?
- Do you think the program was effective in preventing non-smokers from ever starting?
- Please share other reactions and ideas.

The responses by key staff and leaders are summarized by program in Table 5.

In addition to the staff interviews, students at the ten sites were asked a few open-ended question about their feelings as participants. Aggregate student responses by model program are provided in Tables 6 and 6a.

Each of the ten sites also tested their own students. Questionnaires were administered by persons outside the school systems such as the site coordinator or the health agency educator. Students used a coding system to ensure confidentiality. Most of the items on the student questionnaires were taken directly from instruments used by several different studies about teenage smoking. The items measured students' knowledge, attitudes, and behaviors regarding smoking.

Table 5

STAFF ASSESSMENTS

	ROLE OF RESPONDENTS	RECOMMENDED EXPERIENCE OR BACKGROUND	WOULD PARTICIPATE AGAIN?	BEST FEATURES	ASPECTS DISLIKED	PROBLEMS EXPERIENCED	YOUTH REACTIONS TO PROJECT	IMPACT UPON YOUTH SMOKING	EFFECT ON NONSMOKERS	REACTIONS AND IDEAS
AFFECTIVE APPROACH TO ADOLESCENT SMOKING BEHAVIOR	Coordinator; Teachers	B. A. degree; smoking education experience not necessary, but helps to have health or science background.	Unanimous Yes	Reaches students at early age; prepared at a level commensurate with student ability; students had fun.	Too repetitive in places; otherwise no negative comments.	Materials not always provided on time; not enough time to spend with students.	Positive, based upon feedback from students and parents.	Probably very few smokers; can't determine long-term impact.	Unanimous yes	Program needs to be supplemented with information about long-term effects; use with younger grades as well.
COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)	Coordinator; Other Staff; Peer leaders	Coordinator: ability to motivate and train peer leaders; supportive of program concepts; Bachelor or Master's degree in health education; behaviorally-oriented understanding of school systems. Peer leaders: knowledge of harms of smoking; non-smokers; enjoy kids; good speaking ability.	Unanimous Yes	Promotes awareness of pressures; actively involves participants; use of appropriate role models; variety of techniques; behavior skills orientation; focus on decision making; built on sound scientific principles.	Rigid and needs adaptation to suit setting; sometimes not enough material per session; not enough health and physiological information; more activities needed.	Had to rewrite script to suit setting; difficulty maintaining motivation of peer leaders; peer leader recruitment process not selective enough; participants got bored.	Very good, but had to revise activities to keep participants busy and attentive; overall response good from all involved; probably bored sometimes.	Few smoked; yes, as evidenced by student comments; several indicated program helped them to quit; yes, the program made kids think.	Yes, reinforced their beliefs; yes, increased their awareness; unanimous yes.	Program as designed most appropriate in a school; teachers need to be utilized more effectively; trainers of peer leaders should be young; include more youth participation, fewer passive activities.
LIFE SKILLS TRAINING	Coordinator; Teachers	Coordinator: organizational ability; interest in affecting lives of young people. Teacher: Previous experience in smoking education; understand young adolescents; warm, accepting, flexible, good sense of humor.	Unanimous Yes	Teachers enjoy alternate teaching methods; students more interested than with traditional methods; broader implications than smoking; relaxed, unstructured atmosphere, learning through association.	None	Some students not comfortable with open, verbal expression; difficulty in obtaining biofeedback equipment.	Positive student comments and determination to apply concepts to lives; especially liked biofeedback.	Can't determine for some time; few or no students were smokers.	Definitely in short run, can't predict long-term effects.	Concept of life skills training can be begun with younger students, though social skills component of this program appropriate for older (8th grade and up); all 7th graders should receive program.

Table 5 (continued)

	ROLE OF RESPONDENTS	RECOMMENDED EXPERIENCE OR BACKGROUND	WOULD PARTICIPATE AGAIN?	BEST FEATURES	ASPECTS DISLIKED	PROBLEMS EXPERIENCED	YOUTH REACTIONS TO PROJECT	IMPACT UPON YOUTH SMOKING	EFFECT ON NONSMOKERS	REACTIONS AND IDEAS
PREGNANT TEENAGERS EDUCATION PROGRAM	Coordinator; Teachers	Ability to use less structured teaching methods; interest in program; organizational ability; ability to maintain interest and motivation of participants and encourage creativity.	Unanimous Yes	Excellent teaching tool; money is good reward for participants; students encouraged to get to know each other and be creative.	Continuity of program interrupted by high absenteeism.	Difficult to get students involved; too many interruptions; permission slips required by school district; counselors (facilitators) not committed; no facilities for students to meet as group.	All positive, as evidenced by student comments.	Unanimous yes	Unanimous yes	Should be conducted as special unit, instead of part of a class; be sensitive to needs of students and the extent to which they can realistically commit themselves.
SCHOOL HEALTH EDUCATION PROGRAM (SHEP)	Coordinator; Assistants to Coordinator; Teacher	Anatomical knowledge; experience in health field and teaching; understanding of purpose of and information acquired from biofeedback equipment; ability to communicate well with teachers.	Unanimous Yes	Allowing students to test themselves; immediate feedback provided by machines; good way to teach scientific method; students learn by doing.	Allow more time for explaining data results; have teachers conduct program with students (this group used volunteers	No major problems; some student groups too large; test variability due to factors other than smoking.	Fascinated with equipment; most comments positive; unanimous yes.	Unanimous yes, but followup required.	Unanimous yes.	Program should be conducted and supervised by science teachers; program would have greater impact if supplemented by more information on long-term effects of smoking, pressures to smoke, decision making skills.

Table 6

STUDENT ASSESSMENTS

	LIKED PROGRAM						PROGRAM HELPED TO QUIT						PROGRAM HELPED TO DECIDE NOT TO SMOKE								FRIENDS WOULD LIKE PROGRAM						PROGRAM TAUGHT NEW THINGS					
	A Lot		A Little		Not At All		Yes		No		Never Smoked or No Response		Yes		Had Already Decided		Still Not Sure		No Response		Yes		No		Don't Know		A Lot		A Few		Nothing New	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
AFFECTIVE APPROACH TO ADOLESCENT SMOKING BEHAVIOR	44	58	29	38	3	1	14	18	8	10	54	71	30	39	37	49	9	12	0		32	42	4	5	40	53	33	43	41	54	2	3
COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)	37	54	32	46	0		17	25	4	6	48	69	23	33	29	42	8	11	9	13	41	59	4	6	24	35	28	41	39	56	2	3
LIFE SKILLS TRAINING	33	39	46	54	6	7	10	12	2	2	73	86	9	11	71	84	2	2	3	3	29	34	10	12	46	54	18	21	57	67	10	12
PREGNANT TEENAGERS EDUCATION PROGRAM	36	92	3	8	0		5	12	3	7	33	80	12	29	23	56	2	5	4	10	32	78	1	2	8	19	23	74	6	19	2	6
SCHOOL HEALTH EDUCATION PROJECT (SHEP)	39	55	28	40	4	5	13	16	10	12	58	72	22	28	45	57	6	8	6	8	45	56	5	6	31	38	31	39	46	57	3	4
TOTALS	189	56	136	40	13	4	59	17	27	8	266	76	96	27	205	58	27	8	22	6	79	51	24	7	149	42	33	39	180	55	19	6

Table 6a

STUDENT ASSESSMENTS: COMMON RESPONSES

	FAVORITE ACTIVITIES	LEAST FAVORITE ACTIVITIES	INFORMATION LEARNED ABOUT SELF
AFFECTIVE APPROACH TO ADOLESCENT SMOKING BEHAVIOR	Movies - 18 Effect of smoking on heart and lungs - 12	Liked everything - 34 Paperwork - 10	Never want to smoke - 26 Okay to say "no" - 12 Nothing new - 10
COUNSELING LEADERSHIP ABOUT SMOKING PRESSURES (CLASP)	Skits and films - 31 Learning about smoking - 13	Liked everything - 27 Skits and films - 11	Okay to say "no" - 23
LIFE SKILLS TRAINING	Discussions - 24 Experiments - 11	Liked everything - 25 Sessions boring - 17	Okay to say "no" - 30 Would never smoke - 13 Nothing new - 12
PREGNANT TEENAGERS EDUCATION PROGRAM	Learning about harmful effects on self and unborn - 12 Everything - 10 Preparing and making presentations - 8 Group discussions - 7	Liked everything - 25	Harmful effects of smoking on body - 17 Not smoking was right decision - 7
SCHOOL HEALTH EDUCATION PROJECT (SHEP)	Experiments - 36 Learning about effects of smoking - 24	Liked everything - 28 Lectures - 9 Paperwork - 8	Nonsmoking decision reinforced - 18 Nothing new - 8

Description of Youth in the Study

Of the 445 youth who took part in the AIR study, there were slightly more girls than boys (57 percent vs. 43 percent). School grades ranged from fourth to twelfth grade with the highest percentage (36 percent) of youth in the seventh grade. Ages ranged from ten to eighteen; the largest percentage (30 percent) were twelve years old. Sixty-eight percent of the youth were White, 20 percent were Black, 5 percent were Hispanic, 3 percent were Native American, .5 percent were Asian American, and 3 percent were classified as "Other."

The majority of participating youth (68 percent) live with both parents. Twenty-two percent live in a single mother household, 6 percent live in a single father household, and the remaining 4 percent live with neither parent.

A great majority of the youth were non-smokers. Seventy-one percent reported that they never smoke, and only 9 percent reported smoking every day. An additional 7 percent claimed to smoke once a week or once a month. Thirteen percent claimed to have quit smoking. The youth also reported parents' smoking behavior. Forty-six percent of fathers and 56 percent of mothers were reported to never smoke. However, 41 percent of the fathers and 36 percent of the mothers were reported to smoke every day.

Demographic information on the youth participating at each site is presented in Table 7.

Why Evaluate a Program?

Evaluation helps to determine how effective a program is and, most important, how to and where to improve the program. Good evaluation methods can help identify inefficient or unsuccessful activities or procedures. They can suggest additional management-related practices that will help a program run more smoothly or identify areas where additional resources may be needed.

Most projects receiving public or private funds must incorporate an evaluation system. In effect, evaluation offers a means to demonstrate a project's accountability to the community and to present or future funding sources.

How to use formative evaluation. There are two basic kinds of evaluation, formative and summative, that should be useful for program coordinators. Formative evaluation is a process of collecting and using information

Table 7

PROFILE OF DEMOGRAPHIC CHARACTERISTICS, BY SITE

	AFFECTIVE APPROACH				CLASP				LIFE SKILLS TRAINING				PREGNANT TEENAGERS EDUCATION PROGRAM				SHEP				TOTALS	
	FORT LAUDERDALE FLORIDA		RAPID CITY SOUTH DAKOTA		ORANGE COUNTY CALIFORNIA		YUCAIPA CALIFORNIA		BRIDGEWATER -RARITAN NEW JERSEY		BINGHAMTON NEW YORK		HOUSTON TEXAS		NEW YORK NEW YORK		SOUTH BEND INDIANA		MONROE LOUISIANA			
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
SEX																						
MALE	15	(28)	17	(43)	32	(97)	35	(53)	21	(48)	16	(40)	0	(0)	0	(0)	37	(62)	20	(43)	193	(43)
FEMALE	38	(72)	23	(57)	1	(3)	31	(47)	23	(52)	24	(60)	37	(100)	27	(100)	23	(38)	27	(57)	254	(57)
GRADE																						
4	0	(0)	0	(0)	2	(7)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	2	(.5)
5	0	(0)	0	(0)	3	(10)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	3	(1)
6	54	(100)	41	(100)	8	(28)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	103	(23)
7	0	(0)	0	(0)	8	(28)	66	(100)	44	(100)	39	(98)	2	(5)	0	(0)	0	(0)	0	(0)	159	(36)
8	0	(0)	0	(0)	4	(14)	0	(0)	0	(0)	1	(2)	6	(16)	0	(0)	0	(0)	0	(0)	11	(2)
9	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	0	(0)	0	(0)	3	(12)	0	(0)	0	(0)	4	(1)
10	0	(0)	0	(0)	2	(7)	0	(0)	0	(0)	0	(0)	8	(22)	9	(35)	55	(92)	18	(38)	92	(21)
11	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	0	(0)	10	(27)	10	(38)	4	(7)	19	(40)	44	(10)
12	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	11	(30)	4	(15)	1	(2)	11	(23)	27	(6)
AGE																						
10	6	(11)	6	(15)	8	(24)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	20	(4)
11	42	(79)	25	(63)	6	(18)	4	(6)	6	(14)	4	(10)	0	(0)	0	(0)	0	(0)	0	(0)	87	(19)
12	5	(9)	8	(20)	6	(18)	51	(78)	34	(77)	28	(70)	0	(0)	0	(0)	0	(0)	0	(0)	132	(30)
13	0	(0)	1	(2)	7	(21)	10	(15)	4	(9)	7	(18)	1	(3)	0	(0)	0	(0)	0	(0)	30	(7)
14	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	1	(2)	4	(11)	1	(4)	0	(0)	2	(4)	9	(2)
15	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	0	(0)	3	(8)	3	(11)	35	(58)	15	(31)	57	(13)
16	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	0	(0)	11	(30)	5	(19)	21	(35)	17	(35)	55	(12)
17	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	13	(35)	12	(44)	4	(7)	11	(23)	40	(9)
18	0	(0)	0	(0)	3	(9)	0	(0)	0	(0)	0	(0)	5	(13)	6	(22)	0	(0)	3	(6)	17	(4)
RACE																						
White	42	(79)	27	(69)	13	(39)	52	(81)	43	(98)	38	(95)	0	(0)	0	(0)	47	(78)	44	(94)	306	(69)
Black	10	(19)	0	(0)	3	(9)	1	(2)	0	(0)	2	(5)	34	(92)	24	(89)	12	(20)	3	(6)	89	(20)
Hispanic	1	(2)	0	(0)	14	(42)	0	(0)	0	(0)	0	(0)	3	(8)	3	(11)	0	(0)	0	(0)	21	(5)
Native American	0	(0)	12	(31)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(2)	0	(0)	13	(3)
Oriental	0	(0)	0	(0)	1	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(.5)
Other	0	(0)	0	(0)	2	(6)	11	(17)	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	14	(3)
LIVING SITUATION																						
With Both Parents	35	(66)	28	(72)	21	(68)	49	(74)	40	(91)	33	(85)	11	(30)	7	(26)	42	(70)	36	(75)	302	(68)
With Mother	17	(32)	8	(21)	5	(16)	9	(14)	2	(5)	6	(15)	16	(43)	14	(52)	13	(22)	7	(15)	97	(22)
With Father	1	(2)	1	(3)	4	(13)	8	(12)	2	(5)	0	(0)	4	(11)	0	(0)	3	(5)	3	(6)	26	(6)
With Neither Parent	0	(0)	2	(5)	1	(3)	0	(0)	0	(0)	0	(0)	6	(16)	6	(22)	2	(3)	2	(4)	19	(4)

Table 7. PROFILE OF DEMOGRAPHIC CHARACTERISTICS, BY SITE - continued

	AFFECTIVE APPROACH				CLASP				LIFE SKILLS TRAINING				PREGNANT TEENAGERS EDUCATION PROGRAM				SHEP				TOTALS	
	FORT LAUDERDALE FLORIDA		RAPID CITY SOUTH DAKOTA		ORANGE COUNTY CALIFORNIA		YUCAIPA CALIFORNIA		BRIDGEWATER -RARITAN NEW JERSEY		BINGHAMTON NEW YORK		HOUSTON TEXAS		NEW YORK NEW YORK		SOUTH BEND INDIANA		MONROE LOUISIANA			
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
SMOKING BEHAVIOR																						
Never	49	(91)	33	(80)	25	(78)	43	(66)	41	(93)	34	(85)	20	(54)	12	(44)	38	(63)	21	(46)	316	(71)
Once a Month	0	(0)	2	(5)	4	(13)	7	(11)	2	(5)	1	(3)	2	(5)	0	(0)	0	(0)	5	(11)	23	(5)
Once a Week	0	(0)	0	(0)	0	(0)	1	(2)	0	(0)	0	(0)	1	(3)	4	(15)	1	(2)	2	(4)	9	(2)
Every Day	0	(0)	0	(0)	2	(6)	4	(6)	1	(2)	1	(3)	4	(11)	5	(19)	15	(25)	10	(22)	42	(10)
Used to but Quit	5	(9)	6	(15)	1	(3)	10	(15)	0	(0)	4	(10)	10	(27)	6	(22)	6	(10)	8	(17)	56	(13)
PARENTS SMOKING																						
Father																						
Never	22	(41)	20	(50)	12	(38)	31	(47)	30	(68)	22	(55)	7	(19)	11	(42)	28	(47)	23	(49)	206	(46)
Once a Month	2	(4)	1	(3)	2	(6)	1	(2)	1	(2)	2	(5)	0	(0)	0	(0)	0	(0)	0	(0)	9	(2)
Once a Week	3	(6)	1	(3)	2	(6)	3	(5)	0	(0)	1	(3)	2	(5)	1	(4)	1	(2)	0	(0)	14	(3)
Every Day	24	(44)	15	(37)	15	(47)	27	(41)	13	(30)	13	(33)	21	(57)	5	(19)	30	(50)	27	(47)	185	(41)
Mother																						
Never	31	(57)	18	(44)	18	(56)	41	(62)	29	(66)	29	(73)	17	(46)	11	(41)	28	(47)	29	(62)	251	(56)
Once a Month	4	(7)	1	(2)	3	(9)	1	(2)	0	(0)	1	(3)	1	(3)	1	(4)	1	(2)	1	(2)	14	(3)
Once a Week	0	(0)	2	(5)	3	(9)	1	(2)	3	(7)	0	(0)	2	(5)	0	(0)	0	(0)	1	(2)	12	(3)
Every Day	19	(35)	19	(46)	7	(22)	22	(33)	11	(25)	10	(25)	14	(38)	14	(52)	30	(50)	15	(32)	161	(36)

to improve the functioning of a project. It is a way to monitor a project from its start to finish. Many of the records kept as part of project management are useful in conducting formative evaluation. These records, along with other measurement techniques, can be used to identify (1) the degree to which planned activities are being conducted as intended, (2) the degree to which desired outcomes are occurring as intended, and (3) any unplanned outcomes (positive and negative side effects). Specific questions that can be answered by formative evaluation are:

- Do the activities of the project clearly relate to the goals of the project?
- Are the activities well-defined enough to be observed and documented?
- Is there a time schedule or sequence for all activities?
- Are the planned activities and their timetable practical with regard to any constraints that exist or have arisen in the project?
- Are the planning activities appropriate to the level of the target population?
- Are there any unexpected negative or positive side effects?

By conducting this ongoing evaluation during the project, necessary improvements can be made without waiting until the end of the project to discover what changes were needed.

Measurement techniques used to help answer the preceding questions are paper-and-pencil instruments, behavioral observations, and interviews:

- Paper-and-pencil instruments can include knowledge tests, questionnaires, checklists, and rating scales. They are easy to administer and score, and they can be used to measure both what students are learning and how their attitudes are changing. Examples include tests about the effects of cigarette smoking (to answer the question: are project activities resulting in students' learning about the harmful effects of smoking?); and a questionnaire asking students' opinions about a specific activity (to find out if any single activity, film, or print material has appeal).
- Behavioral observations do not involve questions or responses. They are performed by unbiased observers on subjects who generally do not know they are being observed (since if they did know, this would probably affect their behavior). Although such observations are sometimes conducted, documented, and "weighted" in very systematic ways,

they need not be so formal. As an example, teachers who are not involved in the activities, or parents, may notice that youth smoking behavior is changing over the course of the program. Another example would be to have teachers or peer leaders observe students as they are involved in various program activities to find out which ones seem to particularly interest students, and which ones appear too difficult, time-consuming, or boring.

- Interviews permit yes/no, multiple choice, or open-ended questions. For example, participants can be interviewed after various program activities to find out about unanticipated outcomes or side effects.

All of these techniques can be used to determine staff reactions to the programs as well as youth reactions. In addition to the above techniques, information kept in records (such as the budget, timeline, and task chart) can be used to measure actual progress against what was proposed. Differences between what has been proposed and what has actually occurred indicate that (1) revisions must be made in proposed information; or (2) changes must be incorporated to bring the actual closer to the proposed.

How to use summative evaluation. The kind of evaluation that occurs at the end of a program or activity to assess its impact or effectiveness is called summative evaluation. It attempts to determine whether a program has achieved its stated goals and has had a measurable short- or long-term impact.

One of the most frequently used techniques in summative evaluations is called an "experimental" (or, if less structured, "quasi-experimental" design. This design uses an "experimental" group that does receive an intervention (e.g., participation in the program), and a "control" group that does not. The two groups should be as similar as possible.

The two groups are measured before the intervention takes place by a pretest. A relevant pretest in this case might be a questionnaire concerning youth smoking knowledge, attitudes, or behaviors. It is expected that the outcomes yielded by the pretest would be similar for the two groups. The two groups are measured once again after the intervention has taken place. This is called a posttest. Any differences in posttest outcomes between the two groups, and in the experimental group's pre- and posttest outcomes, can probably be attributed to the effects of the program. Follow-up information (for example, at three or six months after the program)

should be gathered on a sample of those who participated in the project to see if the observed changes continue over time.

The three measurement techniques (paper-and-pencil instruments, behavioral observation, and interviews) described in the formative evaluation section can also be used in summative evaluation. However, they are administered before or after, instead of during, the program, and they usually measure different aspects of the program than those assessed by formative evaluation. Since summative evaluations are generally more controlled, it may be necessary to have the evaluation conducted and the resulting data analyzed by someone who is very familiar with summative evaluation.

How to Keep Health Education Programs Alive

When a health education program is initiated, it should lay the foundation for a continuing smoking and health education effort, and a continuing collaboration between the involved schools and organizations. One-time efforts are ultimately of little use to anyone. They serve only a small population, and the amount of work required to get them off the ground is hardly worth the effort. Programs are likely to be incorporated into school systems, agencies, or organizations if they:

- have been proven effective in altering youth smoking behavior
- have strong appeal for participating youth
- are cost-effective
- have resulted in good, strong working relationships between all involved, both within and between organizations
- can lay the groundwork for building future health education programs (e.g., those dealing with drug and alcohol abuse; family life education)

The following suggestions will help assure that a program is a lasting health education effort:

- Where possible, adapt the program to its setting rather than vice versa. The less disruptive a program is, the less it requires changes in schedules, workloads, or class structures, the greater are its chances of becoming an established part of the system.
- Get the media to publicize the program. This can be done through press releases to newspapers, television, and radio stations, and through agency and school district newsletters.

- At the end of the program, discuss the final report at a meeting that includes sponsor(s), the school district superintendent and involved principals. and staff. The meeting should:

  - highlight the effectiveness of the program and its appeal to youth. (For the latter, it's a good idea to interview youth participants after the project has ended to find out their opinions, particularly if they think the program would be useful to other youth.)

  - Discuss any cost-cutting measures in the program activities that would not adversely affect effectiveness.

  - Stress that since the program has been implemented once, problems have been ironed out and future implementations will run smoothly.

Once an agreement has been reached among sponsor, site, and staff to continue the program, specific guidelines should be developed. These will be very useful for new staff and for other sites or sponsors who may be interested in replicating the program.

Suggestions for Future Use of the Model Programs

The fact that the five model programs are continuing or expanding at the 10 replication sites indicates that they each met with a convincing degree of success in terms of at least two of our three major criteria: impact upon youth smoking knowledge, attitudes, and behavior; appeal to involved youth and staff (marketability); and replicability. We strongly believe that these three elements are crucial and that they are to some extent interdependent; that is, no program is likely to survive that meets only one or two of the criteria.

We have focused our recommendations upon those ways in which these three elements can be strengthened, drawing primarily from the experiences (both positive and negative) and suggestions of the ten replication sites.

Impact upon smoking knowledge, attitudes, and behavior. Each of the five model programs used a unique approach to influence youth smoking attitudes, knowledge, and behavior. While the medium used to promote the message varies from mime to biofeedback machines, the programs all have a major focus upon at least one of the following:

- Pressures to smoke, including the influence of peers, family, and the media;

- Combatting those pressures through increased self-confidence, assertiveness, and decision making skills;
- The immediate and long-term physiological consequences of smoking.

It is our belief that the strongest programs are those that incorporate all three of these aspects. In this way, youth are armed with both the necessary knowledge and the skills to make well-informed, convincing decisions not to smoke. We also found that involved youth and staff mentioned the need for a particular component in a program where it was lacking. For example, in the biofeedback program it was suggested that the existing activities be supplemented by materials concerning (1) long-term physiological consequences of smoking; and (2) the reinforcement and support of nonsmoking behaviors for those who don't smoke as well as for those convinced by the biofeedback evidence to stop smoking. Likewise, in one of the programs that focuses upon skills acquistion, participants expressed a strong interest in the physiological effects of smoking.

But whether a program uses a single or multi-method approach, it is important that the message not be overpowered by the method. For example, youth may become so involved in experimenting with machines, or role playing assertiveness situations, or creating presentations, that the nonsmoking message becomes secondary. While activities that are original and interesting to youth are important, it is essential that the "don't smoke" message be consistently reinforced.

Marketability and appeal. The recommendations we have reported to improve program effectiveness should also increase appeal. All of the programs present unique, interesting, and enjoyable approaches to the teaching or presentation of smoking education. All programs employ either education by peers or experiential learning, and each of these approaches has distinct advantages over the more traditional teacher/student interactions. Education by peers provides youth with role models, who may be more convincing than teachers and who are usually more accepted. Experiential education promotes learning-by-doing, thereby invoking an active involvement and motivation that may be missing in more passive learning methods.

While it is evident that much of the appeal of these programs lies in their fresh and original approaches to learning, it is necessary that the adults involved in these programs be committed to using the less traditional teaching techniques. Teachers, facilitators, or older peer leaders

who are bored or uncomfortable with their roles in a program will evoke only boredom or discomfort in participants. Therefore, it is essential that in the planning process, emphasis should be placed on the optimal qualities required in those individuals who will be interacting directly with the participants.

Replicability. We deliberately challenged the flexibility of the five model programs by selecting replication sites that were quite distinct from one another or from the settings where the original programs took place. A diverse mix of sponsors, geographical locations, and target populations was chosen to test replicability.

We found that in-school programs can be sponsored and administered quite effectively, not only by school districts, but also by health related organizations, medical societies, hospitals, and university departments. One program that had never been implemented in a school was done so with a minimal disruption to class schedules. The experience of implementing a highly structured and specific in-school program in a non-school setting was initially discouraging, but ultimately successful due to the flexibility of the staff and coordinator in making the necessary changes.

We now believe that none of the programs are so rigid as to prevent replication by a variety of sponsors in very different settings. Audiences can also vary--the methodology used for the Pregnant Teenager Education Program can be conducted with any teen-aged audience, and parents enjoy experimenting with biofeedback equipment as much as their adolescent children do. It is worth mentioning, however, that expansion of programs depends upon the extent of the sponsors' funds, as well as their relationships with schools or other settings in which program expansion is to take place. It is realistic to expect, for example, that district-wide expansion of a program is more likely to occur if it is sponsored, funded, and controlled by a school district.

Two other factors affect ease of replication. One of these is cost. The least expensive of these programs are those that require only the purchase or reproduction of written materials. Next are the programs that have audiovisual materials as components. The most expensive programs require the purchase of biofeedback equipment. A potential sponsor may have to dismiss the biofeedback program because of its cost, although it is possible to rent or borrow the necessary equipment.

We recommend that, in preparing budgets for these programs, plan for added costs such as travel to sites and purchase or renting of supplementary materials (although most written materials can be obtained free of charge from health organizations, NCI's Cancer Communications Clearinghouse, and the Office on Smoking and Health). Second, extra funds may be used as peer leader or participant incentives, and to allow youth who are creating presentations as part of their projects to purchase the necessary supplies.

The second factor that affects replication ease is organization. The program materials suggest ways to help coordinators organize programs, and guidelines are also presented in this report. But ultimately, the coordinator and other staff are responsible for planning and implementation. This means it is essential that clear and timely communication occur among all those involved. For example, one program involves communication at different points in the planning process between the sponsor and the school district, high school principal, junior high school principal, involved teachers in the senior and junior high schools, and peer leaders. If the required communication is neglected at any point, or confused or late, the consequence will inevitably show up at some time, possibly in the classroom.

Finally, and probably most importantly, is the commitment of key individuals. This is especially important for the coordinator who must transmit knowledge and enthusiasm about the program to staff and to those in a position to grant permission for the program. If coordinators are able to successfully convey their commitment and belief in a program, then the enthusiasm is bound to become infectious and be transmitted to all involved, including the project participants. It may be the quality of commitment upon which the success of all of the programs ultimately rests.

APPENDIX A

Questions

The purpose of these questions is to provide AIR staff with information that we can give to others to help them implement your program. As you go through these topics, be thinking especially of experiences that would be helpful to people who are interested in doing the program themselves.

Funding Source/Sponsors

1. What sponsoring agencies might be especially interested in your project and how can they be contacted?

2. What are the most effective ways to present information to potential sponsors in order to obtain their assistance or participation?

Time Involved in Project Operation

1. How long does the entire project take from start to finish?

2. How much time should be spent in planning the project?

3. How frequently should staff meet to discuss plans and progress?

4. What is the time commitment required by the coordinator, teachers, and, if applicable, peer leaders?

Target Population

1. What appears to be the best target population? (That is, with what group is the project most likely to be effective and appealing? Consider age, sex, level of education, etc.)

2. What are the best ways to recruit the target population?

Activities

1. Was student planning involved in your project, and how was it carried out?

2. Was peer support/instruction used in your project to a greater or lesser extent than in the model, and in what ways?

3. Were any specific model project activities modified to any great extent during your replication, and which ones worked best?

Materials

1. Did you (find it necessary to) create or obtain any materials (handouts, slides, etc.) for the project that were not supplied by the original model developers? Could they be used at other sites?

2. Did you prepare any reports, lists of activities or data management forms for this project that might be useful to others?

Staffing

1. What qualifications do you believe are necessary for an individual to coordinate or direct this project?

2. What qualifications for teachers and/or peer leaders appear to be necessary or desirable?

3. In terms of recruiting (teachers, peer leaders, etc.), did you learn or do anything special that may be of use to others? (For example, an activity or incentive to spark interest in peer leaders)

4. Did the roles that the adults or peer leaders played in your project differ in any ways from those in the original model? In what way? (Focus on ones that would be especially useful for others to know about.)

Effectiveness

1. Was there any evicence, aside from the evaluation questionnaires, that demonstrates project impact and effectiveness on student attitudes, behaviors, and knowledge? (Include student or teacher comments.)

2. Are there any plans to continue the project next year--where and under whose direction?

Costs

1. Were there any unexpected costs involved in this project, or ones that differed from those in the original model?

2. Can or did you think of any ways to cut project costs without affecting project quality?

3. About how much would it cost to start the project at another site or to continue it at your site?

Other

1. If you were going to try to "sell" this project to someone (a possible funding source, health educators, school administration), what would you say about it? What do you think are its strongest points?

2. What major problems or barriers did you encounter throughout the implementation of the project?

3. Would you do the project again?

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